# The OIL WEEKLY

8-304

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*The* **FIELD ENGINEER**

*Expertly trained and competently supervised, the Howco field organization is an "army in coveralls" fighting to achieve one of the industry's major objectives—conservation . . . Greater certainty in drilling new wells, longer life for existing wells, stepped-up production from all wells: these are the targets for today—vital targets, essential to victory, because oil is the fluid upon which victory depends.*

**HALLIBURTON . . . IN COVERALLS**

**HALLIBURTON OIL WELL CEMENTING COMPANY**
DUNCAN, OKLAHOMA

# SQUEEZE 'EM WITH 'STARCOR'

TO STEP UP production from existing wells and conserve pumping and other equipment, many Operators are pushing ahead with reconditioning programs. Outstanding performance on hundreds of squeezes and workovers, makes 'Starcor' Oil-Well Cement the number one choice. Well after well, making 60% salt water — squeezed with 'Starcor' — now makes pipeline oil. Use 'Starcor' for consistently successful down-the-well results.

One of four great cements, made by Lone Star to fit the entire range of today's cementing problems. Take advantage of the service we put behind these cements. Let a Lone Star engineer help you select the cement best suited for the job you have in mind. We'd welcome the chance to pitch in and help. A phone call to the nearest Lone Star Dealer will do the trick.

SYMBOL OF QUALITY EVER SINCE 1900

**LONE STAR CEMENT CORPORATION**

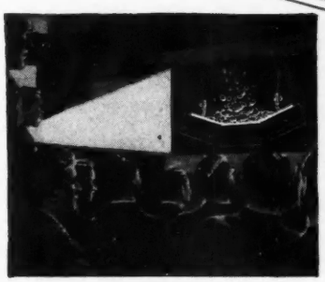
**DALLAS - - - - - - - - - - HOUSTON**

# 17,485

## PLANT AND FIELD OPERATING MEN USE THIS MANUAL

YOU can get far longer life from your precious belting, hose and other rubber products by following the conservation practices recommended in this authoritative manual, prepared by the G.T.M. – Goodyear Technical Man.

More than seventeen thousand field and factory maintenance men are now using it, after seeing its rubber-saving helps demonstrated in the interesting slide film "GOODYEAR WAGES WAR ON WASTE." To have this important film shown to a group meeting at your offices, and to obtain copies of the manual for your key operating men, write Goodyear, Akron, Ohio or Los Angeles, California – or phone the nearest Goodyear Mechanical Rubber Goods Distributor. Remember many rubber products cannot be replaced – the Goodyear conservation plan will help you save them!



**SEE HOW TO GET UP TO 50% LONGER WEAR FROM BELTS AND HOSE** — *it's clearly shown in the slide film "Goodyear Wages War on Waste" — with complete instructions in the Goodyear Manual.*

# GOODYEAR

**THE GREATEST NAME IN RUBBER**

# TOUGH NUTS TO CRACK

LOCKED in place on bolt by grip of tough locking collar
SEALED at top to protect working threads from corrosion
HOLDS nut thread against bolt thread — prevents axial play
FITS any standard bolt. Made in all sizes and types

● We've made billions of Elastic Stop Nuts.

And to our knowledge not one has failed to do its job.

But the tough nuts we refer to now are the fastening problems which looked hopeless until Elastic Stop Nuts were used.

We've met lots of these in our day — and licked them.

There have been plenty of them in war production.

And how well these fastenings have filled the bill can best be told this way:

Every nut we can possibly produce is going into war goods. Yet even doubling our round-the-clock plant capacity hasn't let us gain on the demand.

In the days to come there will be many peacetime needs for these nuts.

Some will be simple. Others will look like "tough nuts to crack."

Our engineers like to meet both kinds. They stand ready to share their experience with you, work on your fastening problem and recommend the proper Elastic Stop Nut application for the job.

**ELASTIC STOP NUTS**

*Lock fast to make things last*

ESNA TRADE MARK

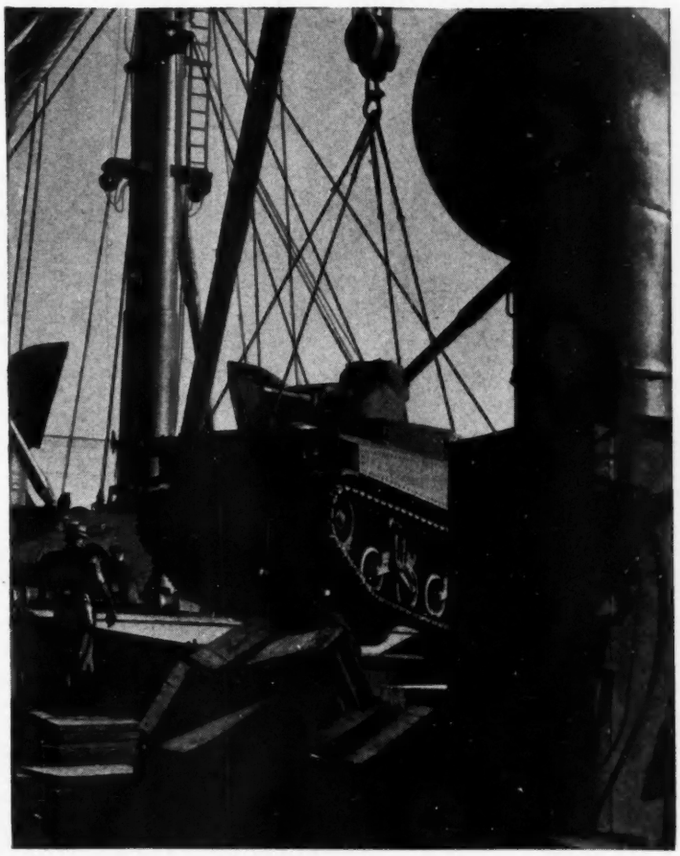
ELASTIC STOP NUT CORPORATION OF AMERICA
UNION, NEW JERSEY


THE OIL WEEKLY, published every Monday. Entered as second class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

# WIRE ROPE NETWORK

## *CARRIES BAD NEWS FOR AXIS!*

*U. S. Maritime Commission photographs.*



Shipyards and ships have been and are being built faster than ever before because construction men and shipbuilders were quick to throw overboard time worn precedents, inhibitions and usages. For example, instead of assembling the myriad pieces of each ship on the ways, huge sections of ships are factory fabricated —then swung on WIRE ROPES to the ways and welded into position in a fraction of the time old methods required.

Already, hundreds of Liberty Ships are veterans of the convoys. On a network of WIRE ROPES swing huge loads of fighting equipment to fill their holds and stack their decks in a race against loading time limits once thought impossible.

Yet, these are only a few of the countless ways in which the wire rope network carries bad news to the axis. Its wave length is limitless. It reaches deep into the bowels of the earth to bring up ores, oil and coal. It reaches a mile and a half high into the air to anchor barrage balloons for snaring enemy bombers.

The best of everything goes to war first. So it is that Union Wire Rope is a veteran of the war. The star above our Navy E signifies another six months of star performance in war production. To the very limit permitted under conditions of war our skilled craftsmen and precision machines also convert the finest of steel into tough tendons for all types of man-hour saving machines essential in the prosecution of the war on the home front.

★ *Another 6 Months of Star Performance*

**WAR PRODUCTION EXCELLENCE WILL BRING POST WAR PLUS VALUE**

**union** *Wire Rope*

**"THE ULTIMATE LOW COST WIRE ROPE"**

UNION WIRE ROPE CORPORATION
2104 Manchester Ave., KANSAS CITY, MO.

*Tulsa • Houston • Chicago • Salt Lake City • New Orleans*
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**SEND FOR ROPE DOPE** • Tells how to make wire rope last longer—how to handle and install it—how to socket or splice—and a wealth of other helpful information. Engineering information supplied without obligation.

*WHEN YOU NEED PREFORMED WIRE ROPE*
*SPECIFY* **union-formed**

# Saved by "STURDYBILT"

- PREFABRICATED
- DEMOUNTABLE
- STANDARDIZED

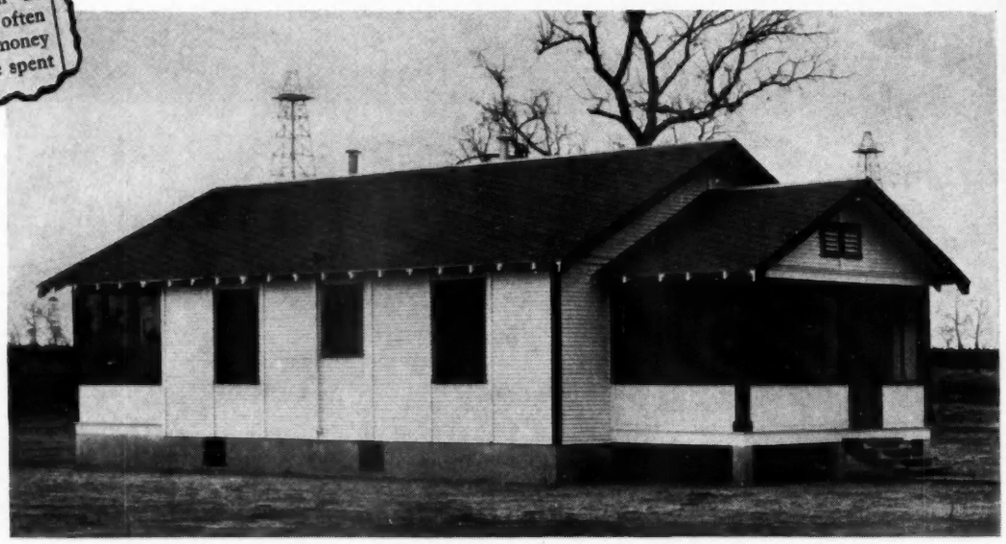
## Demountability Saves Investment In Lease Houses

OKLA. CITY, JAN. 4, 1943. On December 30 an oil company prepared to abandon its lease in the Oklahoma City Oil Field. Plans had been made to move all equipment to a lease in Kansas when they realized that no provision had been made to move two STURDYBILT lease houses.

An oil company official, knowing quick action was necessary, called the Southern Mill & Manufacturing Company, makers of STURDYBILT demountable houses, to find out if it would be possible to have both houses moved before the lease expired.

The next morning, January 1, a Southern Mill crew with four trucks, arrived on the lease to demount the houses. Two mornings later the last truck load left the lease for the new location in Kansas.

STURDYBILT demountable sectional houses, because they can be moved from one place to another, often pay for themselves by saving money that would otherwise have to be spent for new construction.



**Delays in new construction, which are unavoidable now, will never occur if you own STURDYBILT demountable houses that can be moved quickly from one place to another. In a few days, these prefabricated houses can be dismantled, loaded on trucks, and moved to new locations. Upon arrival, they can be re-erected by unskilled labor.**

Southern Mill & Manufacturing Company is now contributing to the war effort by supplying STURDYBILT houses to defense areas, and to war production plants. Consequently, only under certain conditions are these prefabricated houses available for use in private industry. However, prefabricated sections for maintaining STURDYBILT houses are still plentiful, and workers are available to move STURDYBILT houses for present owners.

*As jobbers of Johns-Manville and Curtis woodwork products, and manufacturers of special mill work,* **we can supply your needs for many types of building materials. Phone or write:**

# SOUTHERN MILL & MANUFACTURING CO.

Wichita, Kansas **TULSA, OKLAHOMA** Longview, Texas

# WE FIND SOME TOUGH EMULSION PROBLEMS

## BUT WE LIKE 'EM TOUGH!

... On the tough ones, Tret-O-lite's service and research background proves its true worth. When a producer is wrestling with an "untreatable" emulsion, the Tret-O-lite service representative really can demonstrate what we mean by Tret-O-lite *Service*. If you have an emulsion problem, get in touch with your Tret-O-lite representative for the best in dehydration.

**TRETOLITE COMPANY**

*Manufacturing Chemists*

WEBSTER GROVES, ST. LOUIS COUNTY, MO. • LOS ANGELES, CAL.

Tret-O-lite

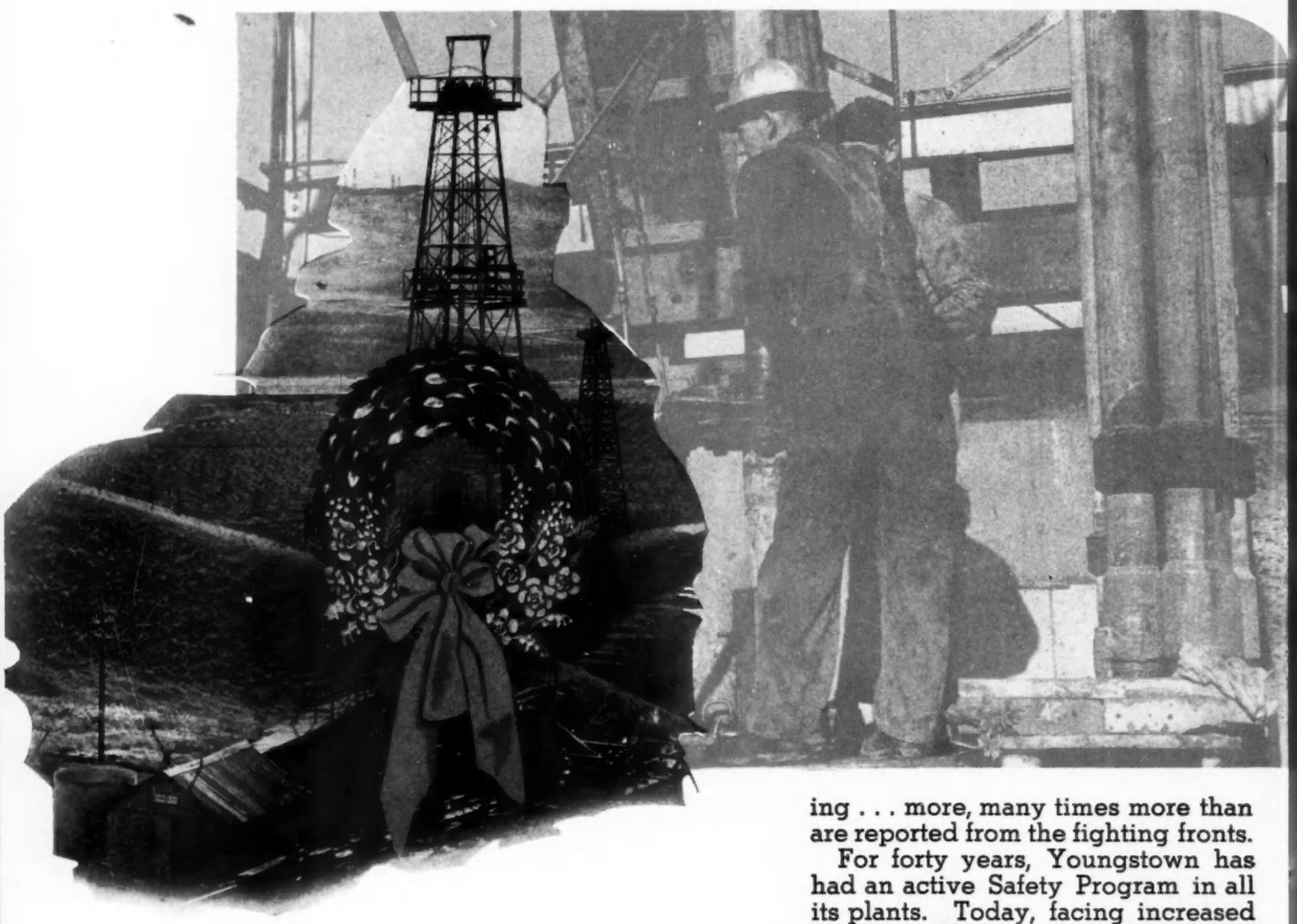
REG. U. S. PAT. OFF.

DEHYDRATING DESALTING

*Complete Service for Every Field*

Emulsion problems other than oil field often arise. In *any* problem relative to demulsification, call on Tret-O-lite.

*Oil is Ammunition • Treat it Right*



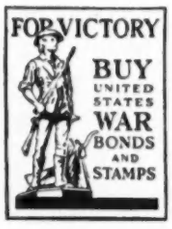
# *Decoration...* *for* INDIFFERENCE

No medals ... no wound stripes ... no citations for the men on the industrial casualty lists!

They are maimed or killed ... just as surely as if by snipers' bullets or enemy bombs ... by carelessness, or ignorance, or indifference. And the appalling fact is that day after day these home front casualties keep mounting ... more, many times more than are reported from the fighting fronts.

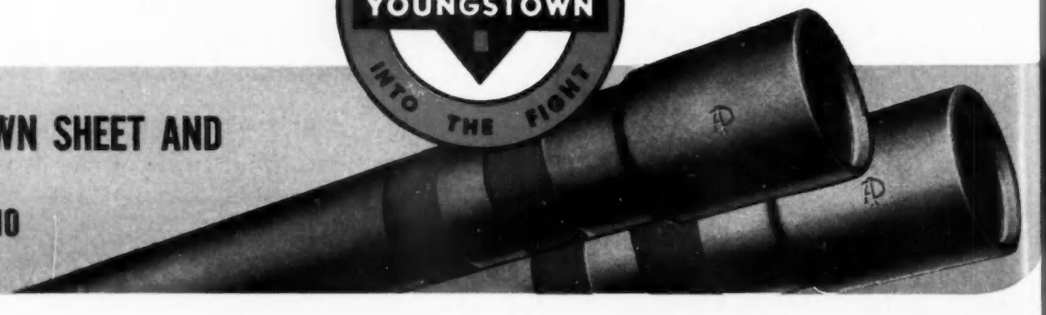
For forty years, Youngstown has had an active Safety Program in all its plants. Today, facing increased hazards of war production on the one hand and the need for maximum effective manpower on the other, we have redoubled our efforts to educate and protect our workers. We subscribe to and give our fullest support to the work of the National Safety Council.

As customer, prospect or friend, we urge that you, too, get behind this work. Enroll in the cause of the National Safety Council. Send a subscription to National Chairman Wm. A. Irwin, 71 Broadway, New York City, for the War Production Fund to Conserve Manpower. Do all you can to help America win this war on the home front.




THROW YOUR SCRAP INTO THE FIGHT
TRADE MARK
YOUNGSTOWN

**THE YOUNGSTOWN SHEET AND TUBE COMPANY**
**YOUNGSTOWN, OHIO**



*Specialized Oil Publications of*

**THE GULF PUBLISHING COMPANY**

## LOOKING AHEAD
### . . . with the Editor

WITH enlarged consumption of petroleum looming on the horizon, and with most regions already called upon for increased output that is near their maximum optimum rate, the nation looks to Texas to produce most of the additional oil that will be required. And Texas looks to West Texas.

West Texas, with its drastically curtailed production, is the brightest ray of hope on the national horizon for increasing its current producing rate. The time approaches, an article next week will disclose, when West Texas production must be increased if growing military demands are to be satisfied.

### The Oil Man's Calendar

| | |
|---|---|
| MAR. 23 | American Petroleum Institute, Division of Production, Pacific Coast District, Biltmore Hotel, Los Angeles. |
| APR. 7 | Society of Exploration Geophysicists, Texas Hotel, Fort Worth, Texas. |
| 7–9 | American Association of Petroleum Geologists, Texas Hotel, Fort Worth, Texas. |
| 8–9 | American Petroleum Institute, Division of Production, Eastern District, Wm. Penn Hotel, Pittsburgh. |
| 29–30 | American Petroleum Institute, Division of Production, Southwestern District, Rice Hotel, Houston. |
| MAY 5–6 | Petroleum Electrical Association, Houston. |
| 6–8 | American Institute of Mining and Metallurgical Engineers, Petroleum Division, Baker Hotel, Dalls, Texas. |
| 20–21 | A.P.I. Mid-Continent Section, Production Division, Tulsa. |


# THE OIL WEEKLY

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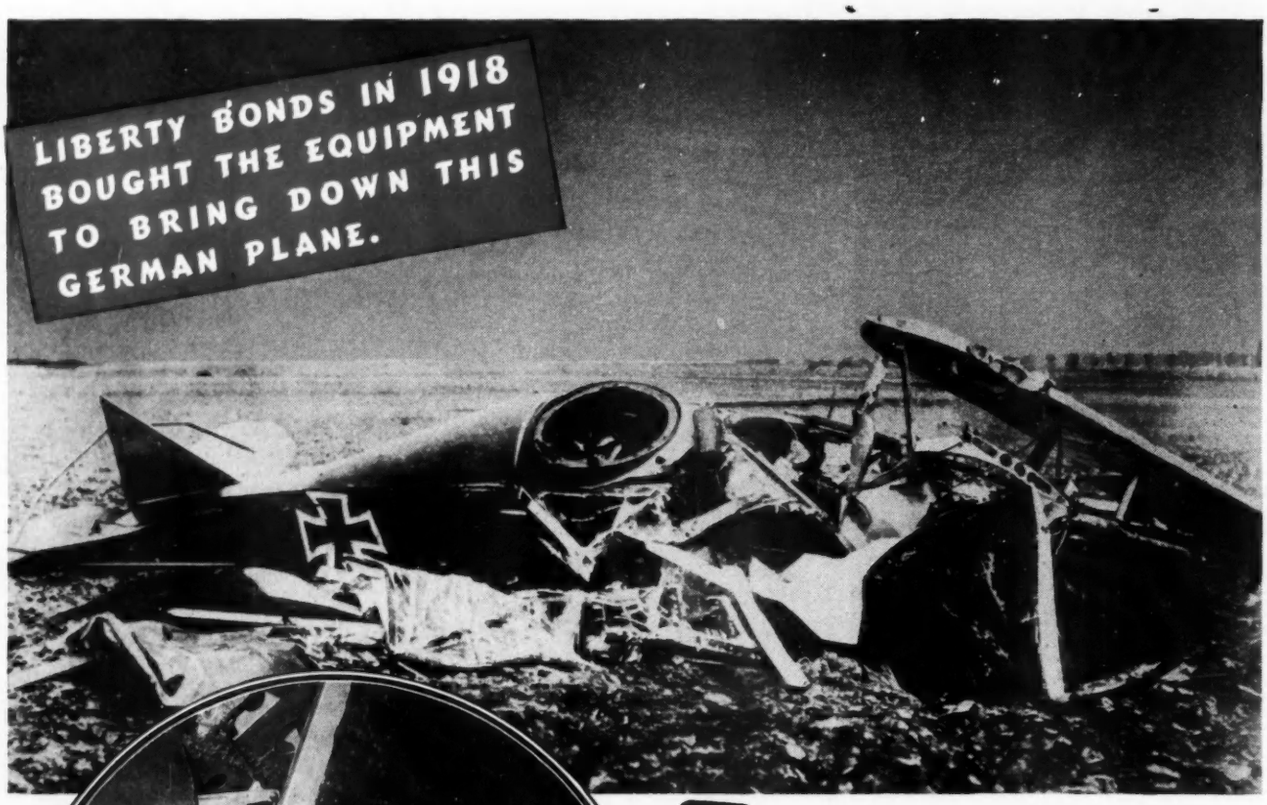

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U. S. ARMY AIR CORPS

# *Today...*
# WAR *SAVINGS* BONDS

## . . . ARE SENDING THIS MODERN FIGHTER ON IT'S ROAD TO VICTORY

**Back in 1918 Liberty Bonds paid for the planes with which to fight German "Kultur." Those planes weren't much, but our boys flew them like the heroes they were . . . and won.**

**Today . . . your War Savings Bonds are paying for our modern fighter planes . . . planes our old pilots probably dreamed about . . . fighter planes that are making our pilots feared and respected by all the Axis forces.**

**We need thousands of these "ships of the air" for we have not only the Germans to fight, but the Japs as well.**

**Put *all* your savings to work for the best trained fighters on earth . . . buying planes and armament with which to end forever the Nazi and Nipponese menace to civilization and freedom.**

***LET'S LEND EVERY AVAILABLE DOLLAR TO UNCLE SAM—THE BEST SECURITY ON EARTH***

**REED ROLLER BIT CO.**
**HOUSTON, TEXAS,**

# The Changing Panorama

## Selective Drilling Policy Imminent

ALLOCATIONS of materials for drilling wells on a selective basis, with the possible contribution of the proposed well to the war needs as the determining factor, is seen as an early probability. Several recent developments and prospective actions indicate that such a policy is imminent, with PAW the control agency charged with seeing that materials are allocated where they will do the most good.

Because of the increasing scarcity of steel, as plants manufacture greater volumes of war machinery, and prospects of immediate sharp gains in petroleum consumption, it is becoming imperative that the industry accomplish more and more with less and less equipment. Particularly does this apply to the exploration and development activities of the oil business, which means to the drilling of wells, as this petroleum activity is the largest consumer of steel, and also the one regulated most easily. To do this, it is necessary that drilling be concentrated in the right spots, where the most oil of the proper type and at the most advantageous location can be procured per ton of steel expanded.

Several recent developments and prospective actions indicate such a policy of discretionary regulation of drilling is likely. As a forerunner of such practices, PAW during late February ordered that drilling in the Barnhart, Texas, field henceforth be conducted on a 160-acre pattern instead of the 40 acres provided for in general Conservation Order M-69, and also stopped drilling for gas in the Texas Panhandle. In both instances, lack of adequate pipe-line outlets and need for careful distribution of the limited amount of critical materials was the reason given.

Meanwhile, PAW 10 days ago issued a formal call for the drilling of 4500 wildcat wells during 1943. This would be the largest number of wildcats ever drilled in a single year and 50 percent more than last year. First preference in the distribution of available materials will be given exploratory activities, PAW added.

Conservation Order M-68 performed its function last year, which was to limit the use of equipment. It succeeded in reducing the number of wells completed by one third. However, the proposed drilling of from only 16,000 to 18,500 wells this year, of which it is hoped 4500 will be wildcats, may result in its discard, at least partially.

Imminent at the moment is a new P-98-c order designed to be the basis for a new control of materials distribution to the oil industry, under which PAW may take over some 90 percent of the authority now exercised by WPB. This would give PAW control of the allocation of materials to the industry, making it possible to promulgate selective drilling programs on a wide scale.

Thus it appears that drilling materials are to be distributed on a basis that will give wildcats first call on equipment. Consideration is being given by PAW officials to the establishment of stocks of tubular goods earmarked for wildcatting only. Development wells in fields that have adequate outlet and yield desirable grades of crudes probably would rank next in importance. Since PAW already has consistently committeed itself to a program of encouraging secondary-recovery projects, it is likely this group would come in for high consideration also. If any surplus materials remain, which appears doubtful, they will be allocated to development work in less favorable areas.

## Exceptions to New PAW Drilling Orders

WHERE sufficiently impressive facts show it desirable to drill additional wells, exceptions will be granted to PAW's Administration Orders and Interpretative Orders, both of which have been inaugurated recently.

Exceptions to the orders will not be given on any wide scale, but will be possible to obtain if PAW can be convinced that the well or wells will contribute production needed to aid the war effort, and that the operator has a market for the output likely to be developed.

As with other PAW orders and also those administrated by PAW, such as M-68, it will be necessary to file exception applications to get permission to drill on spacing other than those stipulated. Exception applications to both Petroleum Administration Orders and Interpretative Orders should be filed on Forms 214 a-b, and sent to the district PAW office.

It appears that Petroleum Administration Orders will be used to curb development drilling further than provided for in M-68, such as the Barnhart and Texas Panhandle orders (Column 1).

Interpretative Orders, it appears, will actually be orders classifying a field into the categories of an oil, condensate or gas pool. Recently the Chapel Hill field was designated a condensate pool by one of these orders. Because condensate and gas fields have wider spacing regulations than do oil fields, this also had the effect of instituting wider spacing in the field.

Additional orders of both types are likely.

## Petroleum Big Part Of Lend-Lease

PETROLEUM constitutes a sizeable share of the nation's lend-lease materials that have been sent to Allied Nations. Petroleum products to a value of $382,230,000 have been shipped in two years of lend-lease operations, Congress was informed March 11 by Administrator Edward R. Stettinius, Jr.

About 70 percent of the oil, which represented close to four percent of the total lend-lease aid given Allied and neutral countries in the past two years, went to the United Kingdom, Stettinius reported.

A breakdown of the shipments showed that the United Kingdom received $285,965,000 worth of oil products; China, India, Australia and New Zealand $43,468,000; Africa and the Middle East $39,011,000; Russia $18,007,000; and other countries $5,779,000.

## Rationing Halfs Auto Mileage

RATIONING has reduced the national average of American passenger cars to 5400 miles annually, compared with a pre-war average of 9000 miles. The report, made by OPA Administrator Prentiss M. Brown, was on the basis of rationing board reports in 80 representative counties.

Even with this reduction the goal set up as desirable by the Baruch Committee has not been reached. This committee asserted a national average of 5000 miles per car per year was essential.

## Oil's Transportation Miracle Overlooked By Most People

ATTENTION has been so much on difficulties of getting supplies to the Eastern Seaboard that the positive achievements of the industry in revolutionizing its transportation system have been generally overlooked. What has been accomplished is a transportation miracle, in which the industry forgot its differences and arose to an emergency.

With tankers normally moving something like 1,400,000 barrels daily to the Atlantic Seaboard, both the resources and ingenuity of industry and government were heavily burdened in attempting to provide adequate substitute means almost overnight when nearly all oil boats were suddenly drafted into military service following Pearl Harbor. The whole pattern of oil's shipping system had to be changed in order to perform the necessary functions. Scarcity of steel and manpower made the problem much more difficult. Yet the industry has been able to send a constantly mounting volume of products to the armed forces, and at the same time increase its shipments to the East Coast. It is indeed surprising that the disruption of normal facilities did not have heavier repercussions on the Atlantic Seaboard, and also on production and refining operations. That it did not, speaks highly of the industry's efforts.

Turning to rail shipments as the easiest method of getting quick results, although it was five to seven times more expensive than the former use of ocean carriers, and although there was no reason in pre-war days to maintain the special railroad equipment required, tank cars from all over the country were pressed into Eastern service. Deliveries of petroleum by this method rose from 25,000 barrels to more than 800,000 barrels per day within a year's time, and have continued above the latter figure. Despite numerous difficulties in securing equipment, deliveries to the East by pipe line have increased from 40,000 to four times that volume, and are due to reach 450,000 barrels or more per day by fall. Existing lines have been looped, and additional pump stations installed to boost the rate of flow. Two thousand miles of systems have been reversed to move oil East instead of westward, and 2700 miles of new and salvaged pipe have been laid. Still the expansion continues, 500 miles of the 24-inch pipe line is in operation, and by fall this 300,000-barrel-per-day carrier is to be completed all the way to the East Coast. Barge movements also have been increased from 50,000 to 100,000 barrels per day.

With a minimum of complaint, consumers in the affected East Coast area have accepted the burdensome restrictions on gasoline and fuel oil as a war necessity—but we are afraid they have overlooked the transportation miracle oil has wrought. These achievements form an inspiring record of ingenious improvising, of cooperation among government, the petroleum industry, the railroad and other groups. And the story is still unfolding. Truly a transportation miracle has been performed, and the industry should not permit time to pass without letting the people know what it has accomplished. The railroads, through advertisements and posters, have taken most of the credit. While they deserve much of it, oil also should get its share of public good will.

*Synthetic rubber is now being made from soy beans. The new product is called Agripol, and is produced from soybean oil and ethyl alcohol.*

*The output is expected to reach 2,000,000 pounds per month very soon. This rubber is to be used for mechanical products such as gaskets, belting, shock absorbers, hose linings, etc.*

## Road Construction Means More Autos

MECHANIZED warfare and ocean shipping difficulties are accelerating road construction throughout the world. In the Western Hemisphere, for instance, news headlines have drawn attention to the 1600-mile road from Canada into Alaska, but by next fall an overland route to Central America also is expected to be in use. Eventually this system will join the South American highway system, making it possible to drive from Alaska along the western side of the hemisphere as far as Buenos Aires. From these main highways will branch arteries to many, many localities. Roads are being constructed in China, Russia and Africa. All are rush wartime projects, but will leave an indelible imprint upon the world's economy.

After the war, if not before, these will become internal and international trade routes that will influence the economic position of vast numbers of people. As time progresses, these people will learn the value and pleasure of automotive transportation, and the world will need more and more gasoline and lubricating oil.

## Cooperative Safety Program Pays Off

CALIFORNIA operators who cooperated in a long and aggressive "safety first" campaign have received an analysis of results that proved the undertaking amazingly successful. In addition to the satisfaction of knowing they had saved their workmen from countless injuries and sometimes death, the operators now learn the project paid off as a good business venture.

The California Safety Board, as the group is known, was organized five years ago with the sole objective of reducing the number of disabling injuries suffered by oil company workers. A carefully plotted system of records was employed to check results. A four-year accumulation of these statistics shows clearly what can be accomplished by such a program.

The reduction of disabling injuries during the period amounted to 49 percent, that is, of the 100 accidents that used to happen only 51 occur under safety first supervision. From humanitarian standpoints alone, this cutting down by almost half of all injury cases of itself made the whole effort more than worth while. But it now is disclosed by the corelated compensation records that resultant savings amounted to far more than the campaign cost.

In the four years, accident loss ratio, the relationship of compensation premiums to compensation and medical expense total, dropped 60 percent. This resulted in lowering of compensation premium to member companies. Production, refining and natural-gas operations all showed a big decrease.

*We were visiting the offices of a certain company and were struck with the fact that the hall girls, who had taken the places of the "hall boys" gone to war were so far above the average in appearance that it could not just be a coincidence. So we spoke to a company executive about it, in a joking manner. We found that it was not any joke. It was a policy. Said he: "Some of these days this war will be over and we will have a lot of boys returning to their jobs. Had it occurred to you that we might as well employ a group of girls whose chances of matrimony are above the average, so that when our boys return, matrimony itself will help aid the unemployment problem?"*

*We had not thought about it, but the idea is not a bad one.*

# The Cargo Plane's Priority Passenger

**Fuel is the priority passenger on every flying freighter, having first call on its load capacity. Fuel dictates how much cargo may be carried, while the extent of its availability along the way determines the route flown. These conditions necessitate that the United States look to the quick expansion of 100-octane gasoline manufacturing facilities if it is to fly war materials to fighting fronts —and also that it look to a huge fleet of tankers to distribute the fuel at the proper points along air routes.**

CARGO planes are delivering ordnance and other supplies to North Africa, the South Pacific, to Russia and to China. These imagination-stirring examples show that air cargo carriers are here to stay. In coming years the aviation industry will undoubtedly perform feats beyond even its wartime achievements. Even with our present knowledge of power and aerodynamics the size of the craft which designers and engineers could put into the skies, were they called upon to do so, would stagger a Jules Verne. Yet neither the leviathans of the future nor the bombers, transports and cargo carriers of today, not even the tinest single seater, could fly without fuel.

Fuel is the priority passenger on every flying freighter, dictating how much cargo may be carried; while the extent to which fuel is available along the way determines the routes followed. Planes consume enormous quantities, the gasoline load frequently outweighing the freight load.

Enthralled by feats of globe-spanning transportation, is it possible that we run the danger of thinking of greater military air fleets too much in terms of steel, aluminum and plant capacity, and not enough in terms of the fuel to fly them?

Let's look at these cargo planes, at their stimulating potentialities and at the conditions which make them of practical use in wartime. The accompanying material is taken from the current issue of *The Lamp,* house organ of Standard Oil Company (New Jersey). In reviewing the picture it is important to remember that under present war conditions all supplies of aviation gasoline must be hauled overseas by tankers—for with the loss of the Netherlands East Indies there is little 100 octane refining capacity on the other side of the world.

If one of the mammoth cargo planes we have been hearing about were to lift its 250,000 pounds over San Francisco tomorrow and, with its six engines beating steadily, head for Australia with enough fuel for the 16,000-mile round trip, the quantity of military supplies it could carry would be exactly nothing.

If a 70-ton aerial freighter similar to the *Mars,* largest transport now in existence, were to load enough fuel for a 12,800-mile round trip to Egypt, it too would have to fly with empty cargo space.

As for the medium type of carrier similar in performance to the B-24 bomber, the only route it could negotiate with enough fuel for the round trip would be the comparatively short 7700-mile New York-to-London run. And here again the crew would be taking her over just for the ride; with any considerable cargo the ship would not leave the ground.

### Tankers Carry Fuel

Of course no one is attempting to fuel such flights for the full round trip —in fact, none of these planes has provision for such a fuel load. Cargo planes are actually delivering military supplies to far corners of the earth; they are able to do so because tankers are ferrying aviation gasoline and engine oil over four oceans of refueling stations that punctuate the routes of the flying freighters.

But this raises another question—whether on some war routes cargo planes will not need as many tankers to haul fuel for them as they replace in ocean freighters.

The military value of the cargo plane lies in its flexibility, its speed in getting vitally needed equipment to the fighting fronts, its safety from surface or submarine attack, and the number of ships it replaces.

Most of these qualities the plane will always have. But aside from the heaviest type of carriers, of which only a few have been built so far, every cargo plane now in operation on overseas lanes requires more tankers to keep it in service than it replaces in freight ships.

Present cargo planes operating on long overwater routes (that is, the "light" and "medium" types) consume from one to four tons of fuel for every ton of cargo carried, even under the most efficient operating conditions. Most of that fuel, as we have already noted, has to be carried overseas by tankers.

For this reason it would appear that, in using light and medium cargo planes for transocean hauls of military supplies, the cargo tonnage replaced may be offset by the tanker tonnage needed to carry fuel for the planes under conditions of wartime operation.

And if we consider the question from the standpoint of safety from submarine and sea-raider attack, we come face to face with the realization that, like freighters, tankers carrying the planes' fuel are also vulnerable to torpedoes and shell fire.

The cargo plane has, of course, a definite job to perform. Where speed is vital, or cargo is very valuable in proportion to weight, or where the destination is inaccessible to other transport—all important wartime considerations—the plane is a logical instrument. Let us look at some of the problems associated with expanding the role of the cargo plane in the present conflict.

### How Many Planes?

While exact figures are military secrets, it is possible from various published sources to gain a rough idea—at least for the purposes of estimating requirements of 100 octane gasoline, tankers and steel—of the number of cargo planes we may be able to put into the air through the next year or so. These are shown in the accompanying table.

Not all the steel goes into planes. To construct and maintain in service a fleet of 1000 cargo planes of the heavy *Mars* type would require 270,000 tons of steel—but only a small part of it in

## What Cargo Planes Mean in Terms of Fuel, Tankers and Steel

As Estimated by the LAMP

| TYPE OF PLANE | Number of Cargo Ships Estimated in Service | | | 100 Octane Requirement for Cargo Ships Alone (Bbls./Day) | | | Tankers Required for Transporting Fuel | | | Cumulative Steel Requirement for Aircraft, Fuel, Tankers (Tons) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January, 1943 | January, 1944 | November, 1944 | January, 1943 | January, 1944 | November, 1944 | January, 1943 | January, 1944 | November, 1944 | January, 1943 | January, 1944 | November, 1944 |
| Light | 2,500 | 12,000 | 12,000 | 62,000 | 298,000 | 298,000 | 13.8 | 66.0 | 66.0 | 249,000 | 1,194,000 | 1,194,000 |
| Medium | 1,000 | 6,000 | 6,000 | 49,500 | 297,000 | 297,000 | 11.3 | 67.8 | 67.8 | 190,000 | 1,143,000 | 1,143,000 |
| Heavy | ..... | ..... | 1,000 | ..... | ..... | 66,000 | ..... | ..... | 16.4 | ..... | ..... | 257,300 |
| Total | 3,500 | 18,000 | 19,000 | 111,500 | 595,000 | 661,000 | 25.1 | 133.8 | 150.2 | 439,000 | 2,337,000 | 2,594,000 |

the planes themselves. Requirements (assuming eight hours a day average operating time) are:

| | Tons |
|---|---|
| For 100 planes and the manufacturing facilities to build them | 50,000 |
| For additional manufacturing plants for 100 octane aviation fuel | 120,000 |
| For new facilities for making aviation lubricants | 20,000 |
| For tanker construction to transport aviation gasoline to refuel cargo planes | 80,000 |
| Total | 270,000 |

The same ton miles of transportation obtained from 1000 cargo planes under war conditions could be furnished by 20 cargo vessels with an expenditure of only 70,000 tons of steel.

### Planes and Ships

How do cargo planes compare with ships as carriers of military supplies?

A cargo plane is about twenty times as fast as a ship and is much more flexible. It does not have to unload its cargo at the seacoast—possibly under bombardment—but can deliver it direct to its destination.

Planes have taken concentrated food, machines and surgical instruments to Great Britain, Russia and India. They have taken replacement parts for planes and tanks all the way from the United States to the British 8th Army in Africa, and aided materially in maintaining the amazing drive of that now famous band of fighters.

When it comes to long overwater transportation of strategic materials by cargo plane, one factor to be considered is the number of tankers required to haul fuel for the planes, as against the number of ocean freighters they replace.

### Fuel Requirements

All inventions must be viewed in the light of the materials and tools with which they work. One of the most important considerations in connection with the military use of cargo planes is the frequency of refueling stops.

To show how this works, suppose we follow a shipment from New York to London.

Trace this route on the accompanying map and you will notice that there are several possible refueling points on the way—Halifax, Nova Scotia; Botwood, Newfoundland; some point in Greenland; then Reykjavik, Iceland, and a stop in Scotland. The plane might refuel only at Botwood, or it might stop at any combination or all of the remaining points listed.

Likewise there is more than one way of loading cargoes for such a shipment. It might be decided to load a plane straight through for the entire trip, stopping only for refueling. Or planes could stop frequently so as to carry maximum freight, and the cargo load could be lightened or added to at each stop, depending on the amount of gasoline needed for the next leg.

On what we might call "straight through" loading, stopping only at Botwood for fuel, a "light" plane might consume 4.05 tons of fuel for every ton of cargo carried. With so-called "ideal" loading, stopping at all intermediate points for refueling and shifting cargo as needed, only 1.29 tons of fuel would be consumed for every ton of cargo.

If you make this same comparison with other routes to the war fronts, and with the other three types of cargo planes already described, you reach these conclusions:

1. Except on short runs and with frequent refueling, you have to carry more fuel than cargo until you reach the heavy type of plane similar to the *Mars*.

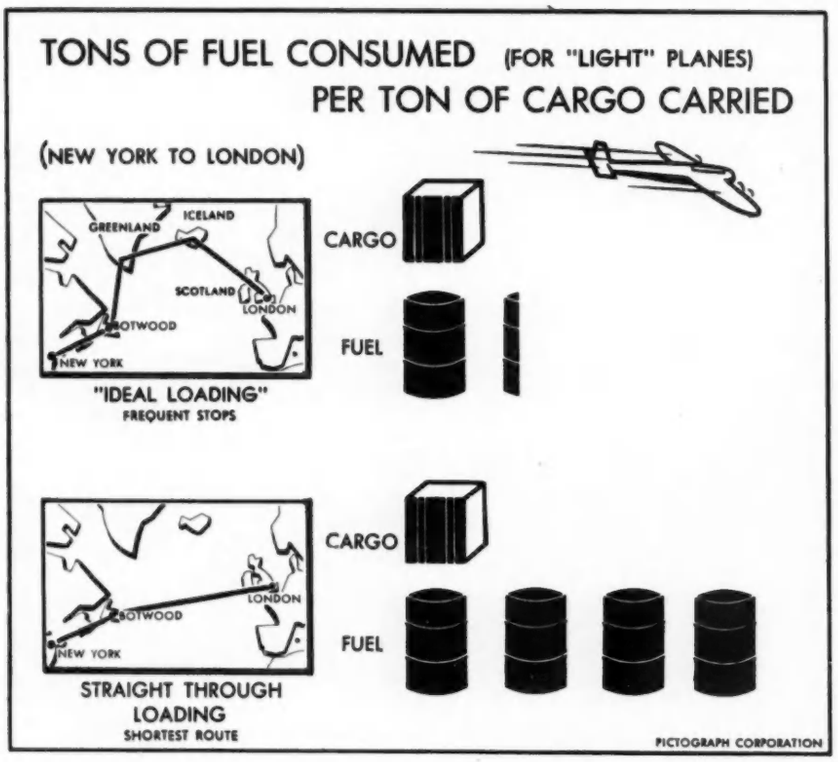
2. On the route from here to Alexandria, Egypt, the type of plane employed and the method of loading may make as much as an eight-fold difference in the weight of cargo that can be carried for each pound of fuel consumed.

### Where Is the Fuel Coming From?

Since the more frequently it is possible to stop and refuel, the more military supplies can be transported over a given route, the next question is how are these fuel supplies going to be laid down where they are needed in wartime.

Some say by aerial tankers. But it takes only a bit of figuring to show that, since such planes would have to carry *their own fuel for the return journey*, they would, on most routes, have no room for extra gasoline to fuel the cargo planes.

That brings us back to the lowly



tanker and here are some of the conclusions that must be reached for wartime operation:

1. For cargo planes now in use it is necessary to send more than a ton of fuel over the ocean in tankers for every ton of war materials carried through the air.

2. On long routes, to supply enough tankers to maintain in service the 1200 cargo planes called for in one contract recently awarded (assuming the heavy type of carrier), would require 20 new tankers.

3. By making frequent stops for gasoline and thus cutting down the weight of fuel in the tanks, the maximum pay load can be carried.

**Fuel Needs Enormous**

It is clear that the most efficient cargo planes on globe-girdling routes are the heavy and the super-classes.

To maintain 1000 heavy-type flying freighters in service over the long routes to the fighting fronts would require a substantial increase in the country's 100 octane capacity, already under heavy demand from the military requirements of ourselves and our allies.

It is understood that the Government plans to refit a number of bombers as cargo carriers. Every time a bomber is converted for cargo use it means an increase in its 100 octane fuel requirements.

Not much is known about the type of military cargo planes now being built. Were they comparable in size to the *Mars*, and assuming they would spend a third of the time in the air, this 1200-plane program alone would require about 3,300,000 gallons of 100 octane fuel a day.

Almost as monumental, particularly from the standpoint of steel required, is the problem of supplying sufficient tankers to haul stores of 100 octane to refueling points along the air cargo routes.

In peacetime this would be less of a problem because 100 octane capacity could be constructed at strategic points in other parts of the world. Even in wartime the most serious study must be given to the possibility of spotting 100 octane plants in Russia and within reasonable distance of the Middle Eastern oil fields of Iran and Iraq.

Every time an aircraft engine burns up 100 gallons of 100 octane gasoline, it consumes 4 to 5 gallons of aviation lubricants.

These lubricants are high quality specialties. Because of the range of temperatures under which aircraft operate, the oils must have a high viscosity index—that is, they must show a minimum change in consistency with extreme temperature variations.

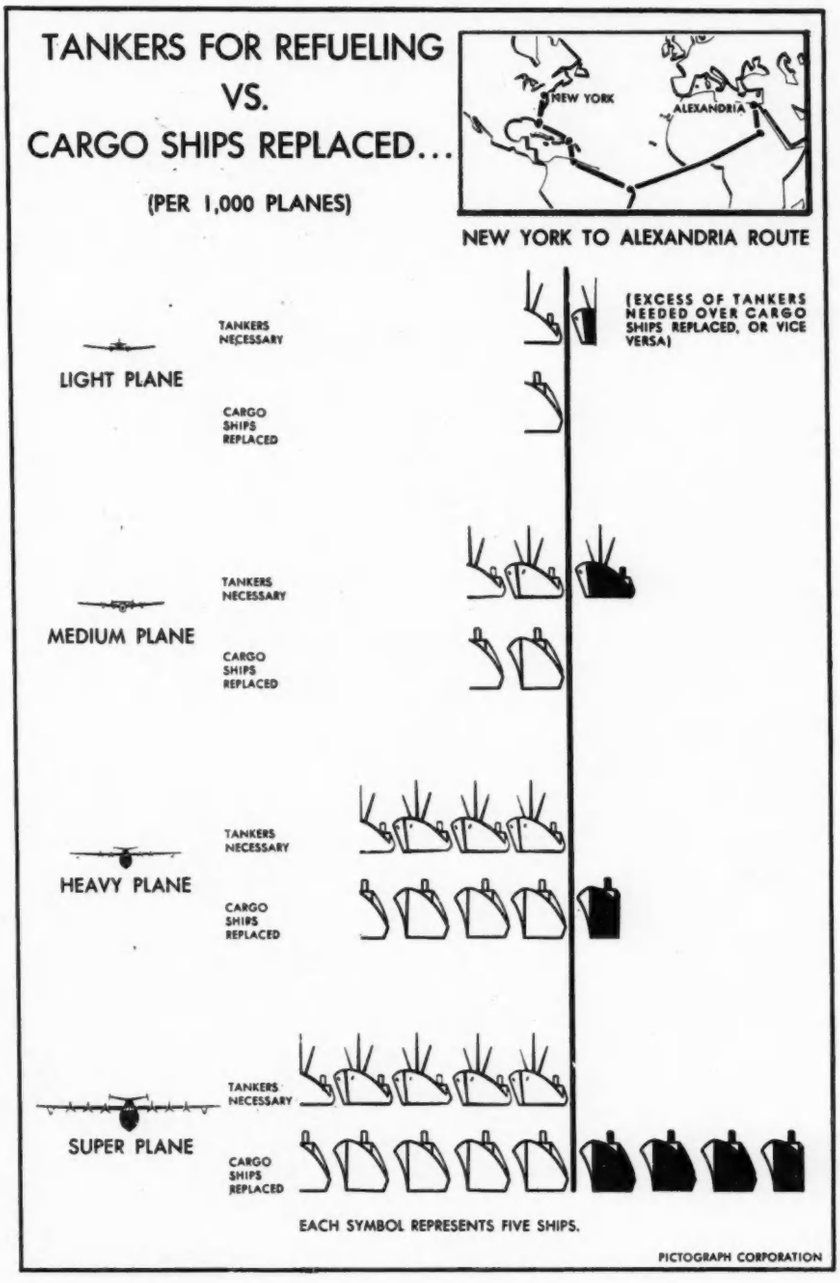
It will be considerable of a job to provide sufficient facilities for the special lubricants required by out military plane program and cargo carriers as well. In normal times to expand aviation lubricant plants would be a 12 to 18 months' job, for the processes involved are complicated.

As a corollary to this action it might be necessary to restrict all top quality lubricants for military use. This would mean the disappearance from the civilian market of premium grade motor oils.

**Refining Facilities Needed**

Whether the industry can supply the fuel and lubricants to put into the air such a cargo fleet as is now being discussed depends on how rapidly the steel and other critical materials that must be allocated among various programs of strategic importance can be made available for 100 octane plant construction.

We are working against the clock. Bombers can be converted to cargo use in a comparatively short time. But it takes at least six months to build 100 octane plants, even longer to fabricate and erect aviation oil facilities. Not only must we think of plane construction in terms of fuel, lubrication and other service requirements but we should plan well in advance the expansion of facilities to meet these needs. Failure to do so may mean long lines of cargo carriers unable to get into the air for lack of gasoline and oil in their tanks.



# Special Plant Treats Heavy Crude Emulsions Efficiently

**Plant has flexible flow system, entirely automatic control, direct-fired boilers, novel waste collecting means and other features**

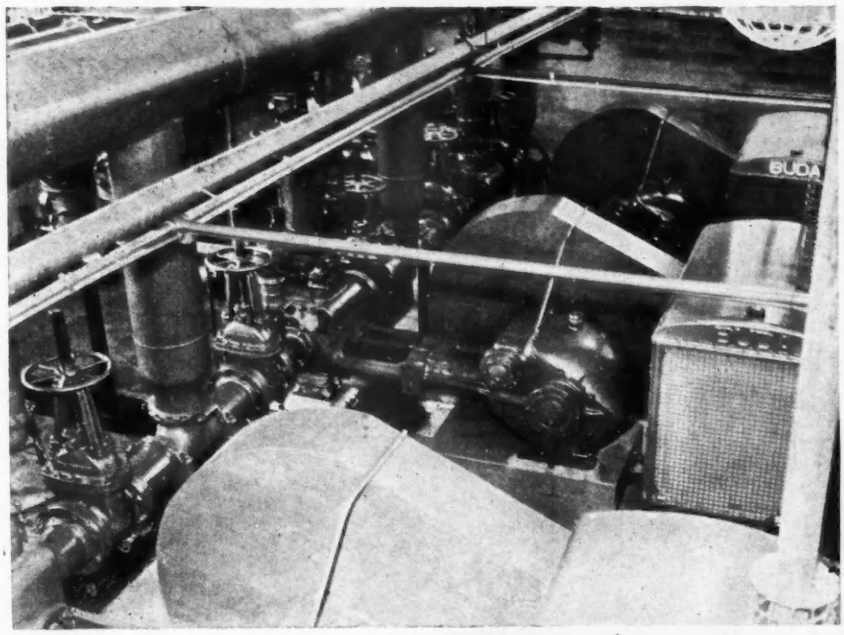
By GILBERT M. WILSON, Staff Writer

A CENTRALIZED crude-oil-treating plant of special design, employing direct-fired heaters, the first of its type to be used for this purpose on the Pacific Coast, has been giving exceptionally successful service since its installation by a large producing company to treat the extraordinarily difficult emulsion problem in the heavy oil produced in one of the Coastal fields. The plant wet-oil flow system is unusually flexible in moving the difficultly handled heavy crude.

Entirely automatic in operation, the plant treats oil which averages 14 gravity and whose cut averages up to 20 percent. The oil itself is extremely viscous, more so than the average of crudes of like gravity in other fields, and emulsions are very difficult to break out. The plant originally consisted of 4 direct-fired heaters and a battery of 8 electric dehydrator units, but plant capacity recently has been increased from its original of around 12,000 barrels per day to approximately 18,000 barrels daily by the addition of 2 heaters and 4 dehydrator units. Pumping equipment of the plant also was increased proportionately. A skimming pond of novel design plays an important part in holding treating costs and waste down to an absolute minimum with no impairment of plant dehydration efficiency.

Wet oil from the field, after first giving up most of its free gas in low-pressure field separators and as much of the free water as can be dropped out in the field collecting tanks, is brought in through a 12-inch main line to a 37,000-barrel receiving tank located beside the

**Pumps deliver the warm oil to this battery of direct-fired heaters. Oil circulating through 4-inch pipe coils is heated up to 180° F., after which it passes through the three 8-inch lines to the dehydrators.**



**Pumping capacity of the plant recently was increased by installation of three 500-barrel-per-hour duplex power pumps. Large intake header and dual 6-inch intake lines assure dependable flooded suction to each pump cylinder. Note emergency use of plywood for V-belt housing instead of customary steel.**

plant. Here, more water is dropped out, and with the aid of hot waste water brought in from the dehydrators, the oil is heated and conditioned for maximum efficiency of handling when it enters the pumping plant.

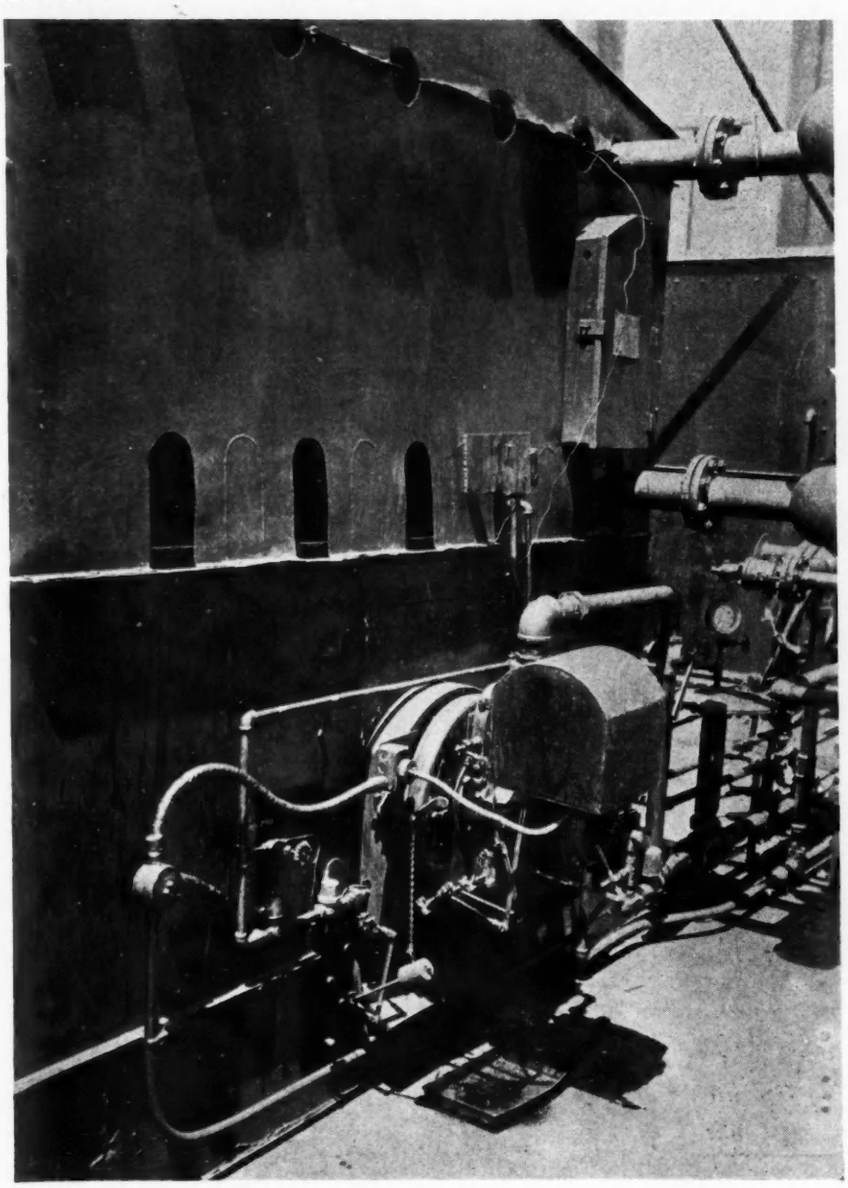
### Special Features Aid Pump Operation

Several features incorporated into the design of the pumping plant have materially improved the efficiency of the pumps in handling this difficult oil. First of all the pumps were located in a cellar five feet lower than the tank outlet to assure flooded suction, and the line bringing oil from the tank to pump intakes was made of 20-inch pipe, this to eliminate any possibility of starving of the pumps caused by line friction and interruptions in the flow of the viscous fluid. Heat from waste water drawn off at the dehydrators brings the oil temperature up to around 90° F. and greatly reduces the fluid viscosity. Waste water is piped into the 12-inch wet-oil line before the field wet oil enters the tank. To still further aid pump suction, a separate 6-inch line is provided for each of the two cylinders of each pump. These dual lines drop down from the overhead 20-inch line to the pumps in the bottom of the cellar.

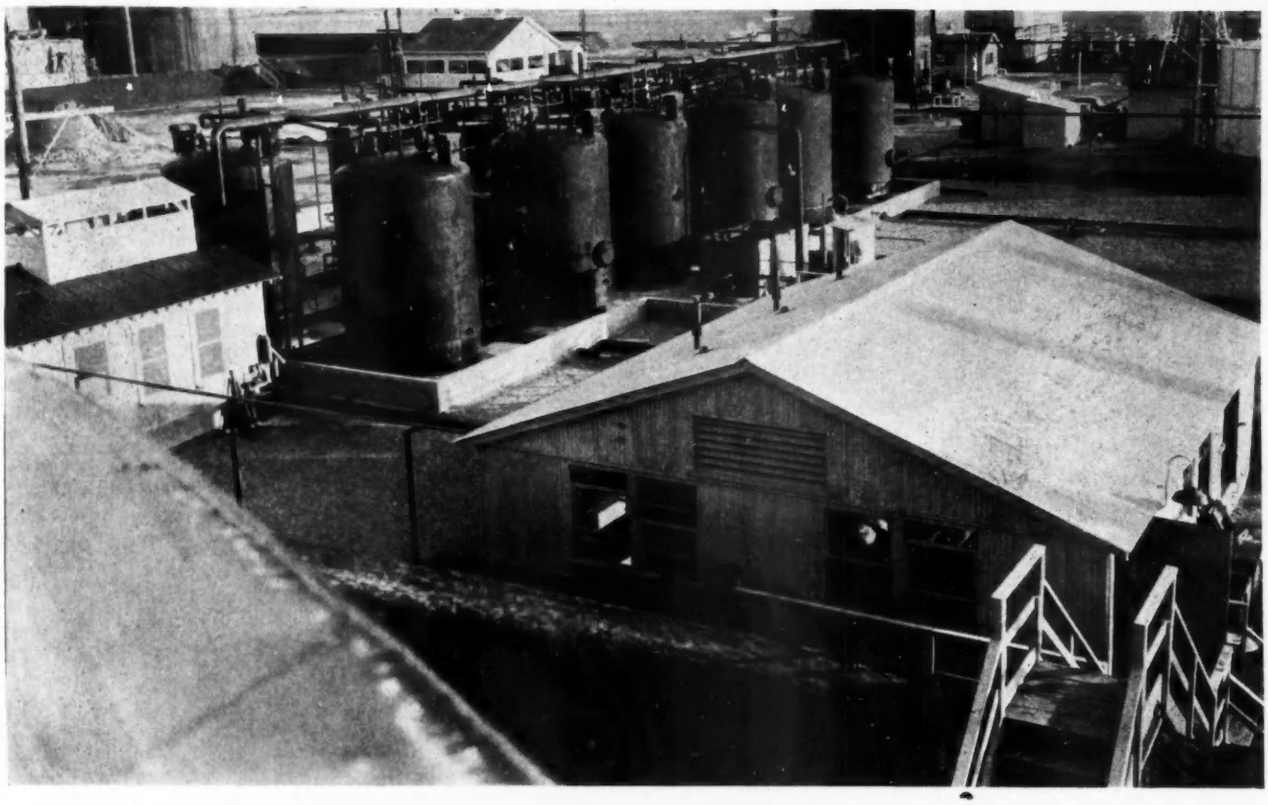
The pumps deliver the oil at 75 pounds pressure into a manifold and from there through 8-inch lines over to the direct-fired heaters.

These heaters are unusual in that they are one of the first of their type to be used for this purpose on the Pacific Coast. They may be either gas or oil fired. The special burners are of a type that requires but a minute or two to convert from gas to oil or vice versa, assuring practically continuous operation of the heaters should either fuel be temporarily shut off. This factor is of considerable importance for if the oil should become cold in all lines throughout the plant, it would require quite a bit of extra work and considerably higher line pressures to get the plant started again. This also influenced the decision to use large-size piping throughout the plant system.

With this type of heater, the heat is



**Heaters are equipped with burners using either gas or fuel oil. Only a minute or two is required to change from one fuel to another, assuring virtually uninterrupted service should either type of fuel be unexpectedly cut off.**

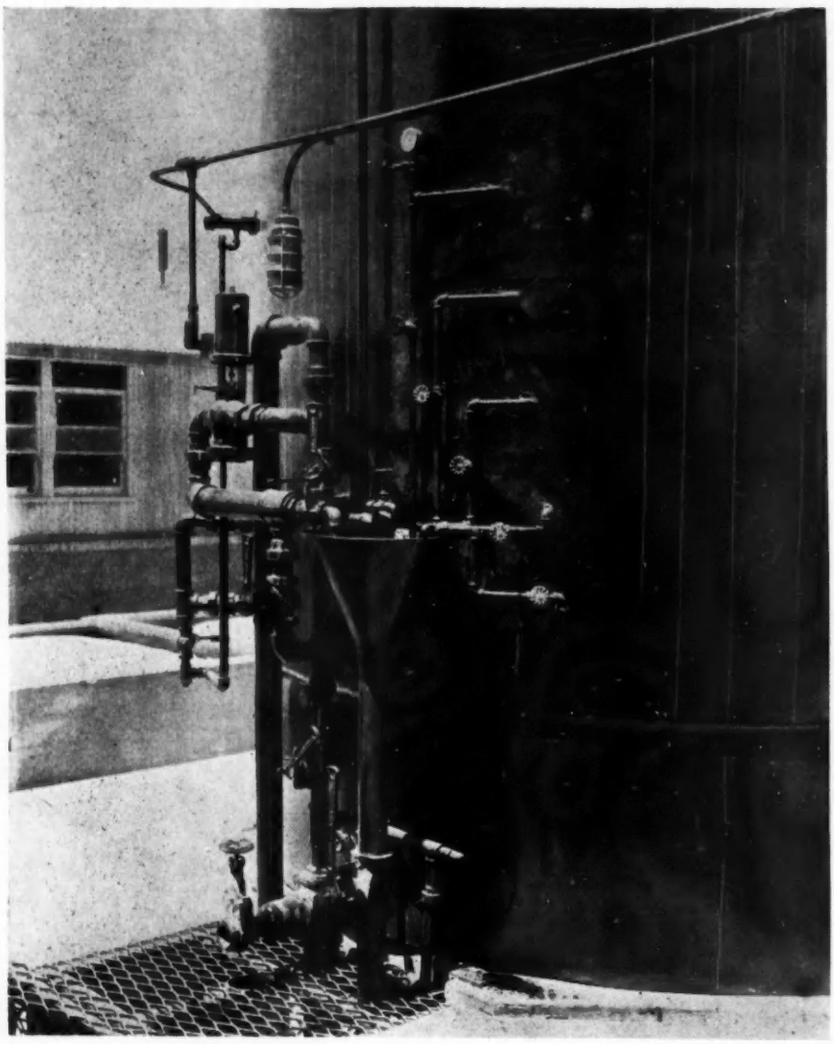


**This battery of 12 electric dehydrator units, expanded from an original of 8, now has a capacity of 18,000 barrels daily. All automatic controls provide for a continuous flow of cleaned oil through the overhead 10-inch discharge line, and waste water over to the skimming pond.**

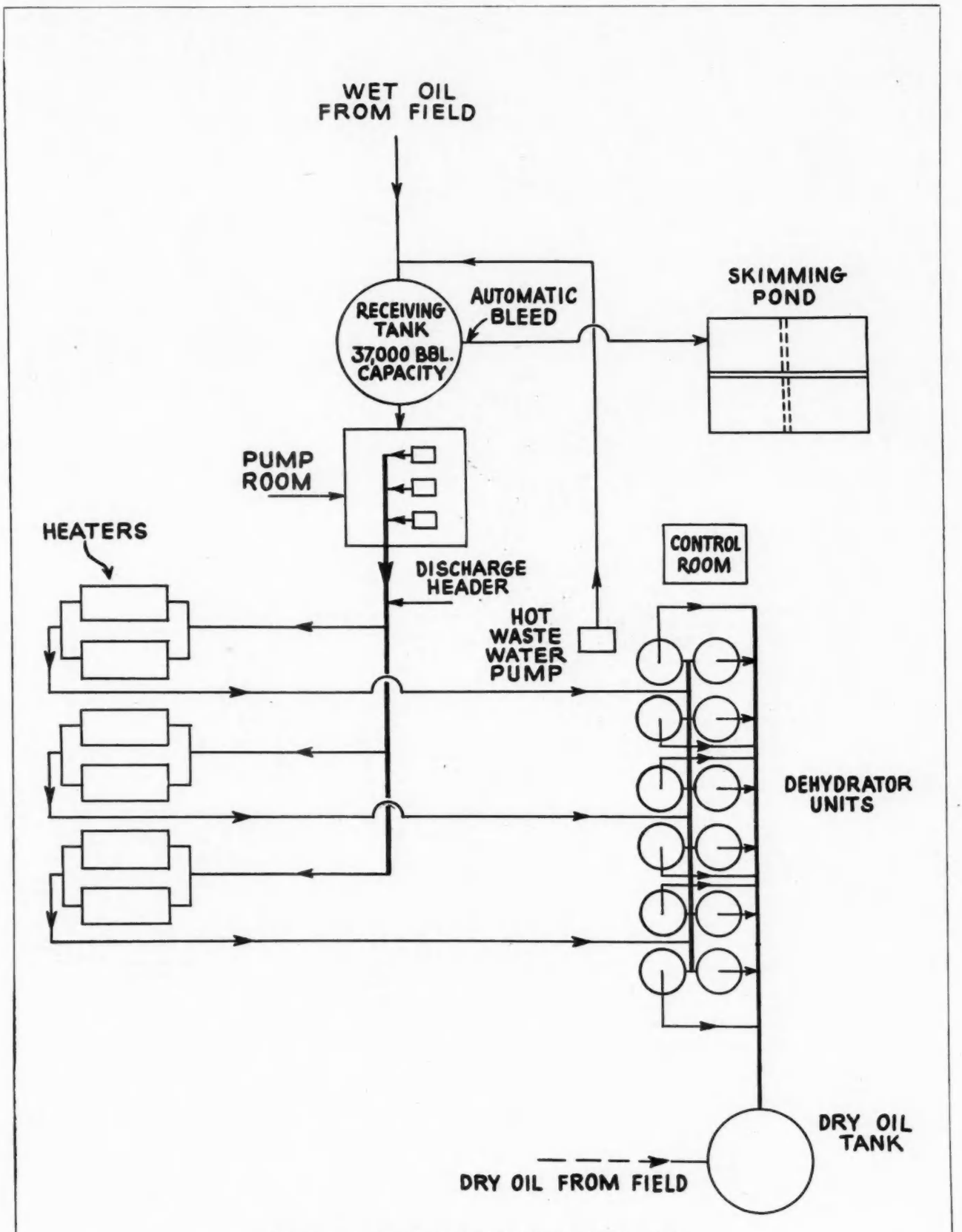
applied directly to the circulated oil instead of through another medium such as in a boiler shell or heat exchanger. The wet oil coming from the pumps is circulated through a system of 4-inch pipe coils. Temperature of the fluid is raised from the 90 degrees attained in the receiving tank to 180° F. Leaving the heaters, the oil is conducted through 6-inch lines over to the dehydrators.

### Electric Dehydrators Automatically Controlled

The electric dehydrators are 28,000-volt, double transformer units, each using two sets of concentric ring electrodes. As the water is separated out and drops to the bottom of the dehydrator units, it is automatically drained off at intervals through the operation of electrically controlled valves. Each unit has one of these automatic bleeders mounted on the outside of the shell. Cleaned oil is removed from the top of each unit and is withdrawn through an overhead 10-inch collecting line which runs the full length of the battery of



**Each dehydrator is equipped with a set of automatic, electrically controlled valves which intermittently discharge waste water into the waste-water collecting system. Pressure in the units is held at 35 pounds per square inch.**




Flow diagram of special plant treating heavy crude oil emulsions.

**In the dehydrator control room a manual control is provided for each unit. Any single unit, bank of units, or if necessary, either electrode of any single unit may be cut out of the circuit.**

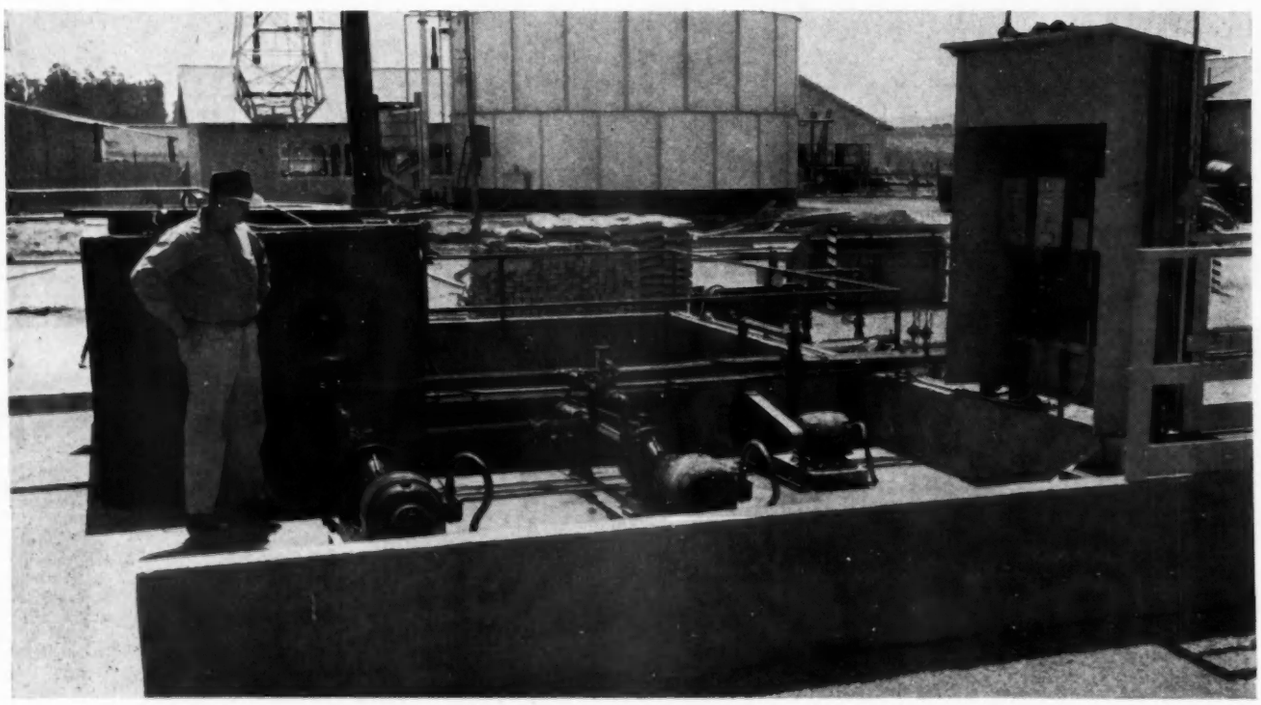
dehydrators. Dry oil averages less than 2 percent cut, and after leaving the dehydrators, goes over to the dry oil receiving tank where it joins the dry oil coming into storage directly from the field.

Pressure in the dehydrators is maintained at 35 pounds per square inch. Because of the slight differential between the gravity of this oil and that of water, it is necessary that temperature and pressure conditions be maintained as nearly constant as possible. The all-automatic features which control these conditions have been largely responsible for the high degree of efficiency and smooth operation of the plant.

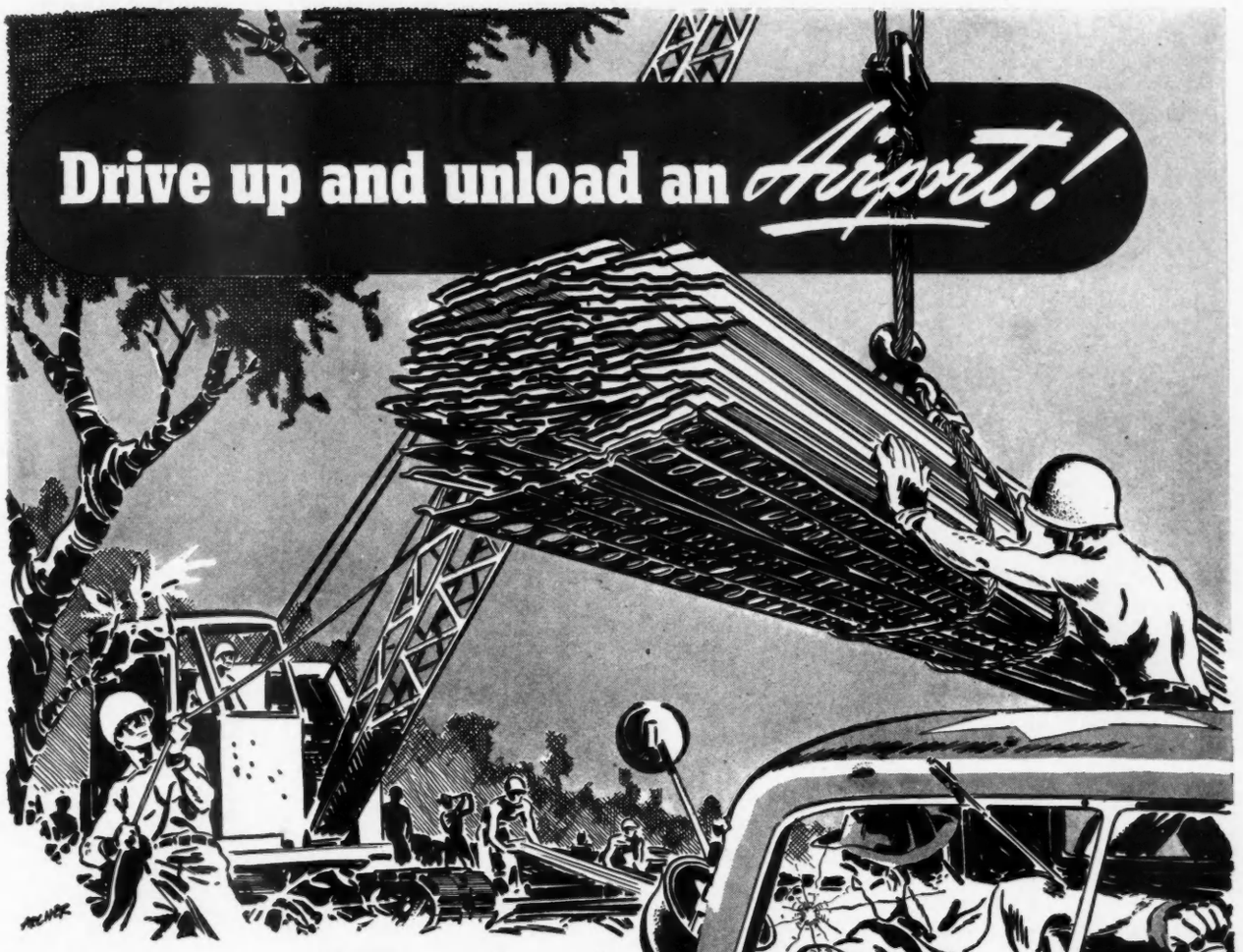
In addition to these automatic controls, a manual control for each individual unit is located in the control room at one end of the bank of dehydrators. This room has two banks of control panels, one on either side of the room, with each of the panels corresponding in position to one of the units. Wiring is so arranged that any single unit or bank of units may be cut out of the system at any time. Likewise, either electrode of any one unit may be cut out, if desired, without affecting the operation of the remaining units.

The dehydrators are neatly laid out on a walled concrete slab and piping is arranged so as to facilitate future expansion of the system if desired. Between the two rows of dehydrators and running the full length of the battery is a concrete-lined ditch six feet wide and three feet deep in which all piping is laid except that part of the system which takes off from the upper parts of the units. The ditch is covered over with expanded metal grating, and at each dehydrator, branch lines take off to serve that unit. Manually-controlled shut-off valves in these under-floor lines are operated with the aid of extension handles welded to the regular valve wrenches, the latter being inserted through round holes cut in the flooring. Each of these holes is lined with a steel collar and a snug-fitting steel disc is placed over it when not in use. All overhead piping, including power lines, and conduiting, are likewise run lengthwise of the row of dehydrators. These

**Small centrifugal pumps, started and stopped automatically by float-operated switches, pump hot waste water drained off at the dehydrators, over to the field wet-oil line upstream from the receiving tank to aid in conditioning the wet oil prior to its reaching the heaters.**



# Drive up and unload an *Airport!*



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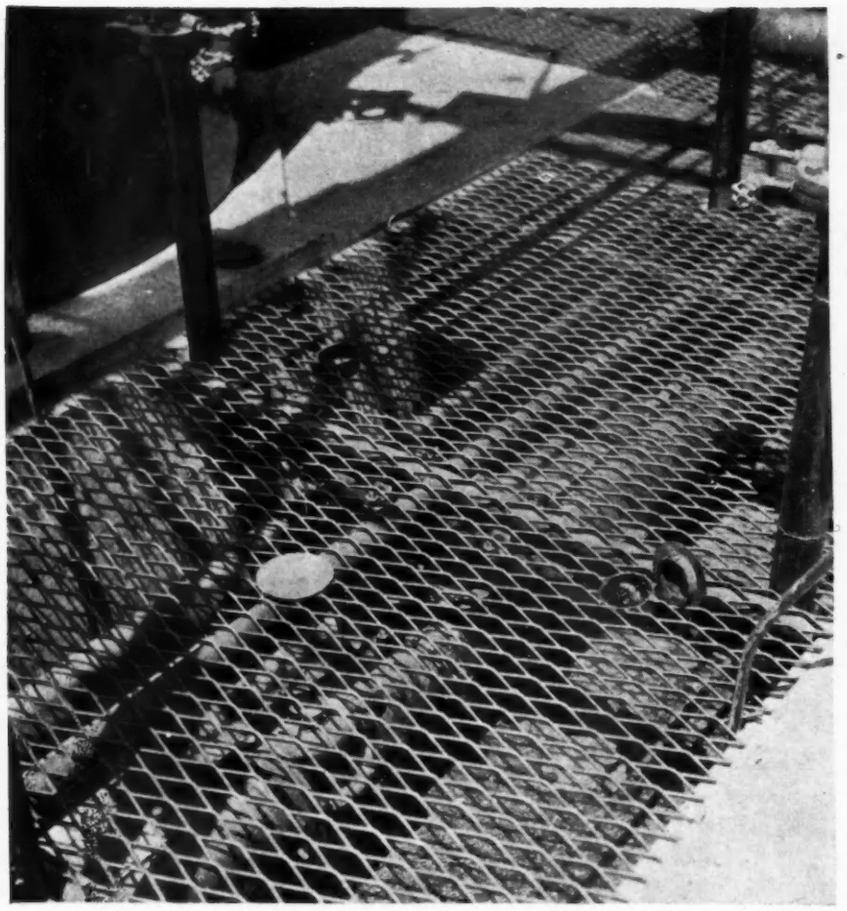


**Valves in pipe lines running in a concrete-lined ditch between the two rows of dehydrators are operated with extension handles run down through steel-collar-lined holes in the floor gratings. When not in use the holes are covered with snug-fitting steel discs.**

are strung along or above an overhead walkway running between the two rows of units.

Waste hot water that is automatically drained off at the dehydrators is brought over to a small collecting pit located between the dehydrator units and the heaters. Here, 2 small 1½-inch centrifugal pumps, operated with a float switch control, pick up the fluid and deliver it to the 12-inch wet-oil line at a point just ahead of the latter's entry into the large tank, where, as was stated earlier, the oil is heated and conditioned prior to entering the pump suction. After giving up part of its heat to the oil in the tank the water, plus that which normally drops out of the oil at the same time, is drawn off through an automatic bleeder and flows by gravity to the nearby skimming pond.

### Skimming Pond System Shop-Made, Efficient

Oil which happens to escape with the drawn-off waste water, including that which is being continuously drawn off at the large tank and the rejects from the dehydrators, represents a worthwhile recovery over a long period, and the method used in its recovery at this plant is interesting. The pond is a concrete-lined basin 50 feet long, 40 feet wide and eight feet deep. It is divided lengthwise by a concrete wall, leaving in effect two basins each 50 feet long by 20 feet wide, and open to each other at only one end.

Waste water with its occluded oil enters at the end of one basin, travels its length, makes a full U-turn in the open end compartment, then travels back the full length of the other half of the basin. Entering the pond, the water first passes through a compartment filled with excelsior waste material which helps to spread out the flow, prevents turbulence in the pond, and aids in subsequent separation of the oil. At the other end is a similar compartment through which the fluid must flow in making the 180-degree turn, but in this case it must enter the box from a level near the bottom of the pond. Each of these two rectangular basins is bisected transversely by a vertically off-set pair of baffles which slow down the flow and keep it moving in such a way as to cause a maximum drop-out of oil. The baffle consists of two partitions, each extending the full 20-foot width of the pond. One section extends up from the bottom to within about 2 feet of the fluid surface and the other extends from the top of the pond down to within 2 feet of the bottom. The fluid, in passing from one end of the pond to the other must go up over the first partition, down between the baffles and under the second, thus assuring that the incoming fluid will be subjected to a maximum submergence while the oil is separating from the water.

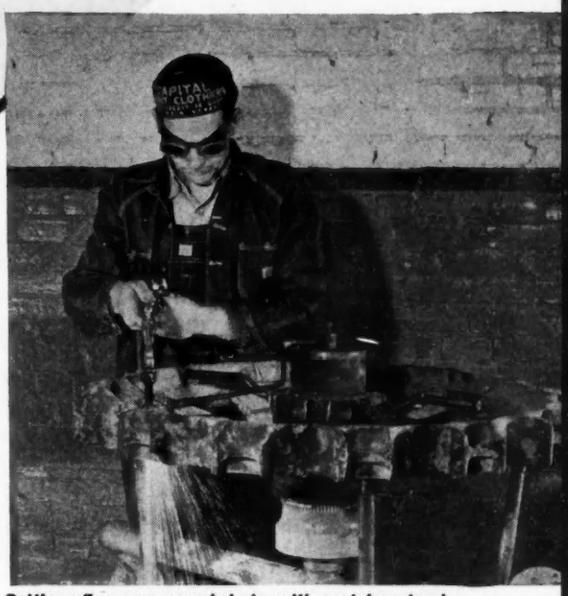
The oil-skimming and collecting system is particularly interesting, not only because of its efficiency of operation but because of the fact that it is largely shop made. Oil is collected at 4 points in the pond, 2 in each of the 2 rectangular sections. Oil skimmed off the surface at each of the collectors drops down a short length of pipe to enter a sloping gathering line which in turn delivers the fluid to a small sump adjoining the pond at one corner, and from where it is subsequently recovered and pumped back into the suction ahead of the pumps in the plant.

Each of the skimming units consists of a funnel-shaped sheet metal device having its upper edge serrated with regularly spaced triangular teeth. The vertex of the funnel is welded to a short length of 2-inch pipe. The lower end of this pipe is turned down smooth on the outside and is made to slide up and down through a stuffing box element screwed on a short vertical riser welded to the lead line collector pipe. A bail welded to the funnel has a vertical control rod several feet long welded to it, and at the upper end of this rod is a handle and threaded section mounted and supported in a wooden framework projecting several feet out over the pond. All of the funnel except the upper part of the teeth is submerged below the fluid, and is adjusted so that only the oil collected on the surface of the water will flow into the collector. With the single screw handle control, it is an easy matter for the operator to adjust the funnel at the point where the maximum amount of oil will flow in without having much free water go over also. Since the recovered fluid is sent back to the plant for dehydration, it matters little that some free water does accompany it. Temperature of the fluid as it enters the skimming pond is approximately 110° F. Waste water withdrawn from the pond is conducted by gravity to the ocean.

An important factor which had to be considered in designing the dehydration plant was that this oil, when heated, would "age" rapidly, bringing on a condition that would make subsequent breaking out of emulsions all the more difficult. For this reason the fluid level in the 27,000-barrel receiving tank is held at only 8 to 10 feet, of which the lower 18 inches is water, held there by

# TRACKS—

## BEAR THEM IN MIND



*Cutting off a worn sprocket rim with acetylene torch*

YOUR "Caterpillar" track-type Tractor gets much of its pulling power from the tracks on which it runs.

So in these days when every ounce of machine power counts for victory, you'll want to give special care and attention to tracks. There are many things you can do to prolong track life. Here are some:

1. Keep the rollers, idlers and diagonal brace bearings lubricated. This should be done more frequently if your tractor operates in mud or water.
2. Keep the track tension correct, and the front idlers in alignment, so that wear will be evenly distributed.
3. Don't abuse the machine. A "Caterpillar" track-type Tractor is built to take a lot of punishment, but it will run longer and more efficiently if you avoid undue shocks and overloading.
4. Go over the nuts and bolts periodically to be sure they're tight. Look — and listen — for signs of wear.

When tracks are worn to the point of needing repair, your "Caterpillar" dealer's excellent service facilities are available night and day, ready to:

1. Turn track pins and bushings. In some cases this will actually double track life.
2. Cut off worn sprocket rims and weld on new rims.
3. Build up the rail side of worn track links.
4. Build up worn rollers by welding.
5. Weld new grousers on track shoes.
6. Switch rollers, especially if your equipment puts extra load on the front, rear or one side of the tractor.

All these types of track service save metal—vital in today's war effort. Your "Caterpillar" dealer is pledged to keep your "Caterpillar" equipment working with the least possible expenditure of war-needed materials. Call on him for counsel, service and repairs, and ask him for a copy of the useful new booklet, "Keep 'em Working."

*Building up track shoes with new grousers*

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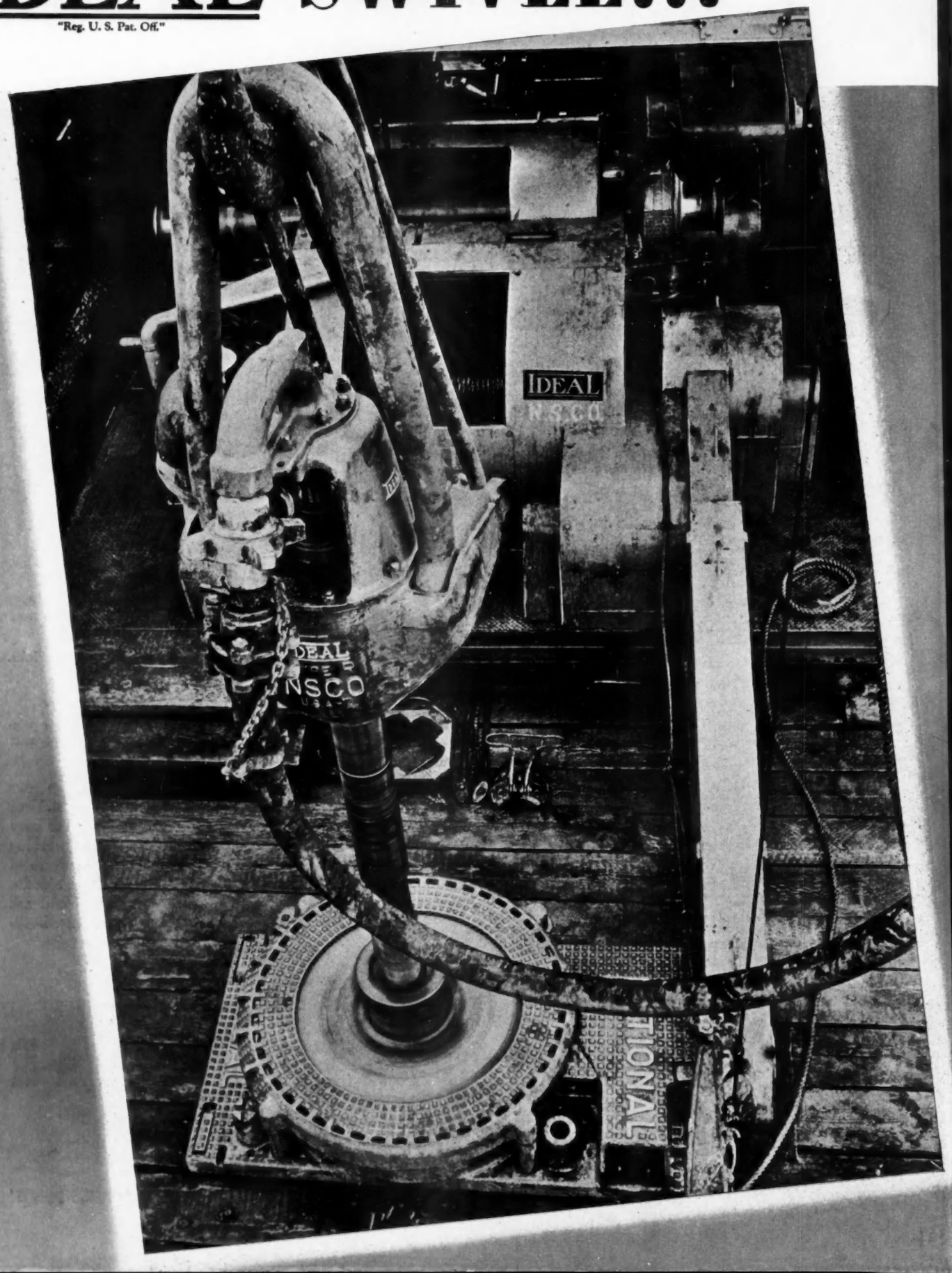

# ...IT IS MOST ESSENTIAL IN PROVIDING THE HUGE VOLUME OF OIL NEEDED FOR WINNING THE WAR

## *Increase the life of your Swivel by observing the following:*

- ☆ Flush out oil reservoir occasionally and fill with clean lubricant.
- ☆ Feel the swivel body frequently...in case of overheating, remove from service for inspection.
- ☆ See that wash pipe packing is properly installed. If wash pipe is scored, replace it.
- ☆ Do not use a crooked kelly...it is very liable to cause injury to the swivel radial bearings.
- ☆ Occasionally give swivel a good, general inspection. Replace worn parts before trouble develops.
- ☆ Follow general instructions from the manufacturer.

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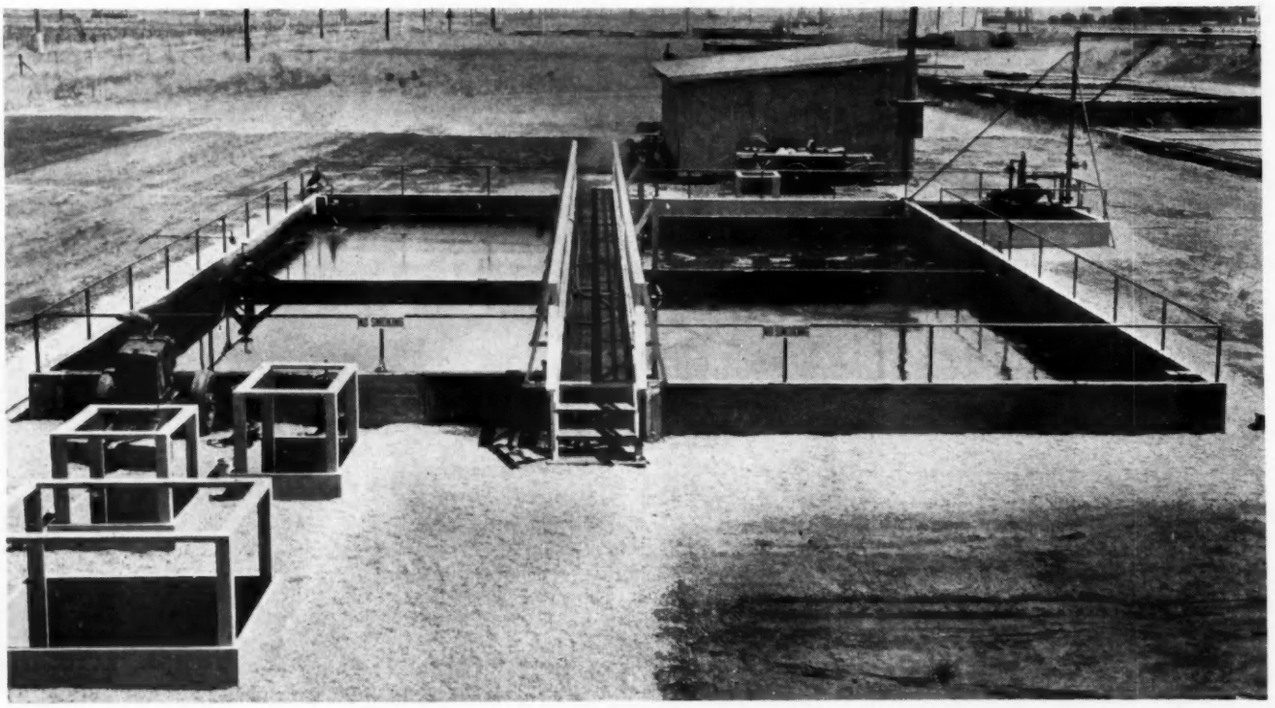
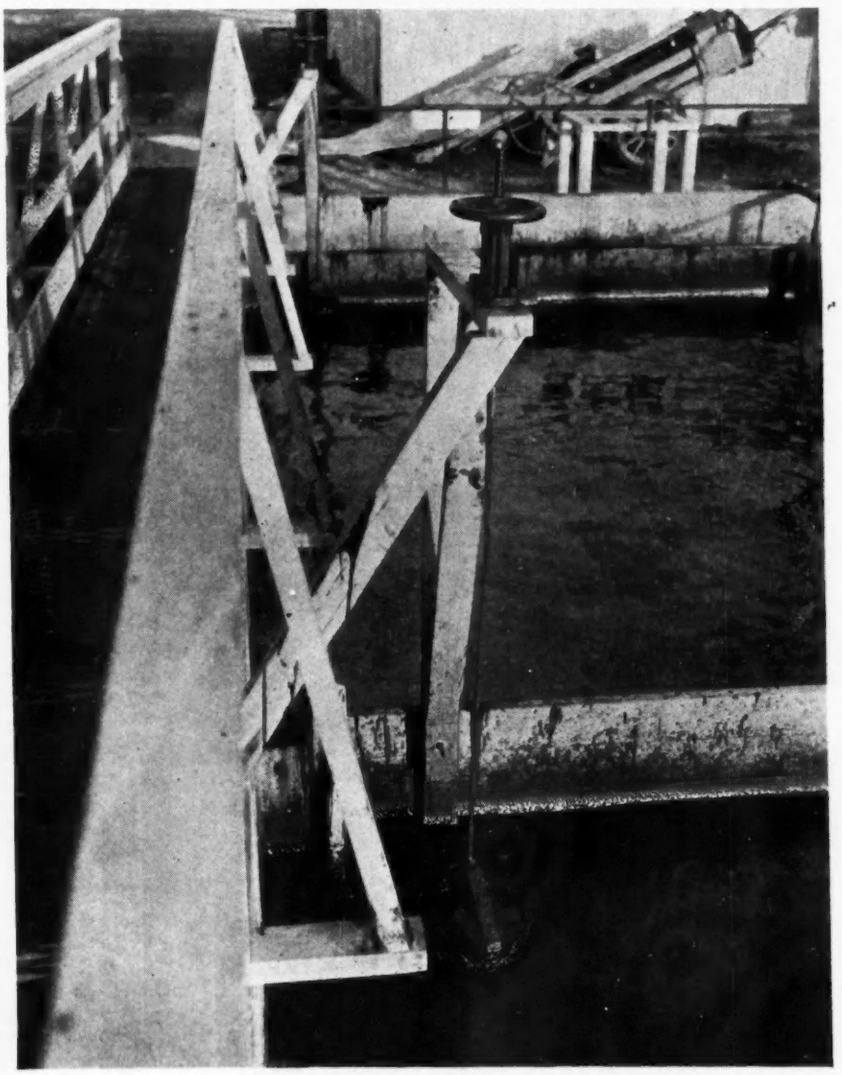


**Oil escaping with waste water, plus dehydrator "rejects" is recovered in this efficient skimming pond. By means of several over-and-under baffles, a maximum recovery is obtained. Fluid enters at section at near left, travels to far end, makes a U-turn and returns to near right end where it is discharged. Four special oil collectors gather oil and deliver it to shipping pump at far right.**

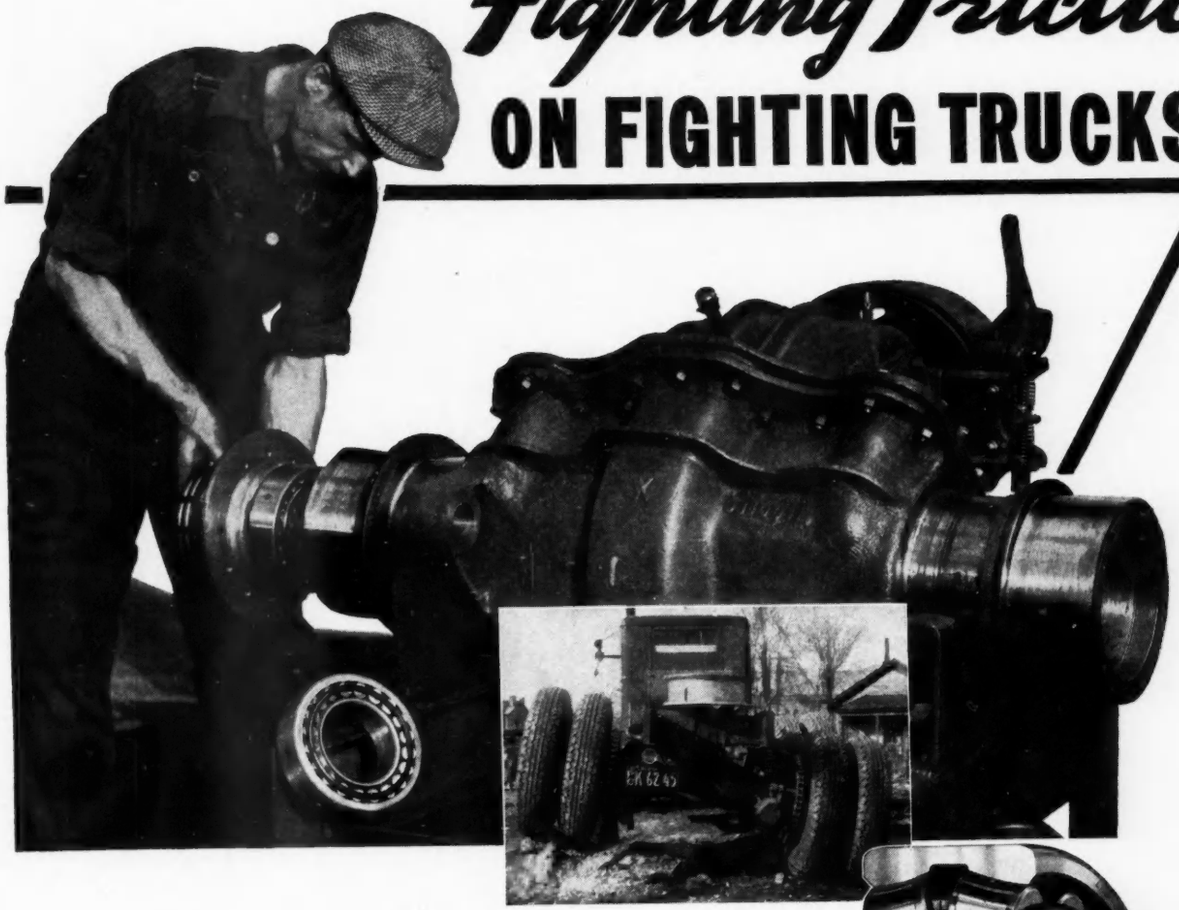
an automatic bleed. Since the oil in the tank is heated up to approximately 90 degrees by the influx of hot waste water, it is important that a minimum stock be kept on hand to assure quick turnover of the crude. Also, should the plant ever be forced to shut down due to power failure or other major trouble, the wells in the field, having no storage except the small gauge tanks, would be able to continue producing, using the unused storage capacity of the big tank until plant operation was resumed.

The dehydration plant has been in constant operation since June, 1942, and soundness of its original design has been amply proven. The many automatic features pertaining to the plant's operation has saved considerably in labor costs as well as assuring a maximum breaking and separating of emulsion and water. Installation of a centralized plant in the field has, in addition, played an important part in holding down large investments in small individual plants scattered throughout the field.



**Ingenious shop-made oil collectors provide for easy manual controlling to recover maximum amount of oil. Saw-toothed edged funnel collects oil which flows through submarine gathering line to shipping pump well. Old valve wheel, stem and part of valve bonnet provide means of closely adjusting collector.**

# *Fighting Friction*
## ON FIGHTING TRUCKS!



● In this "war of movement" transport cannot wait for paved highways. Trucks like these gigantic dual drive Sterlings must take their cargoes unfailingly over any kind of terrain. Jolting over broken ground, slogging through mud or sand, subjects the drive mechanism to every kind of strain, and severe loads are thrown on the outer bearings of the driving sprockets. The ingenious design of Sterling's drive unit assures traction even with one wheel completely off the ground, and Friction Fighter roller bearings on the sprocket hubs assure free rolling action with full delivery of power, through Link-Belt Silverlink roller chain, to the rear wheels. These bearings are self-aligning and can handle either radial or thrust loads or any combinations of both. Get Data Book No. 1775 to learn the many unique features of Friction Fighter bearings which are furnished without mountings or as mounted units. Link-Belt Company, Indianapolis, Dallas, Houston, Kansas City, Mo., Los Angeles, New York, Toronto. Distributors in all fields.

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## FRICTION FIGHTER BEARINGS
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# Maintaining Swamp Gas Line Presents Unique Problems

## Periodic brackish flood over bottomless coast area complicates installation and maintenance of pipe

By ELTON STERRETT, Staff Writer

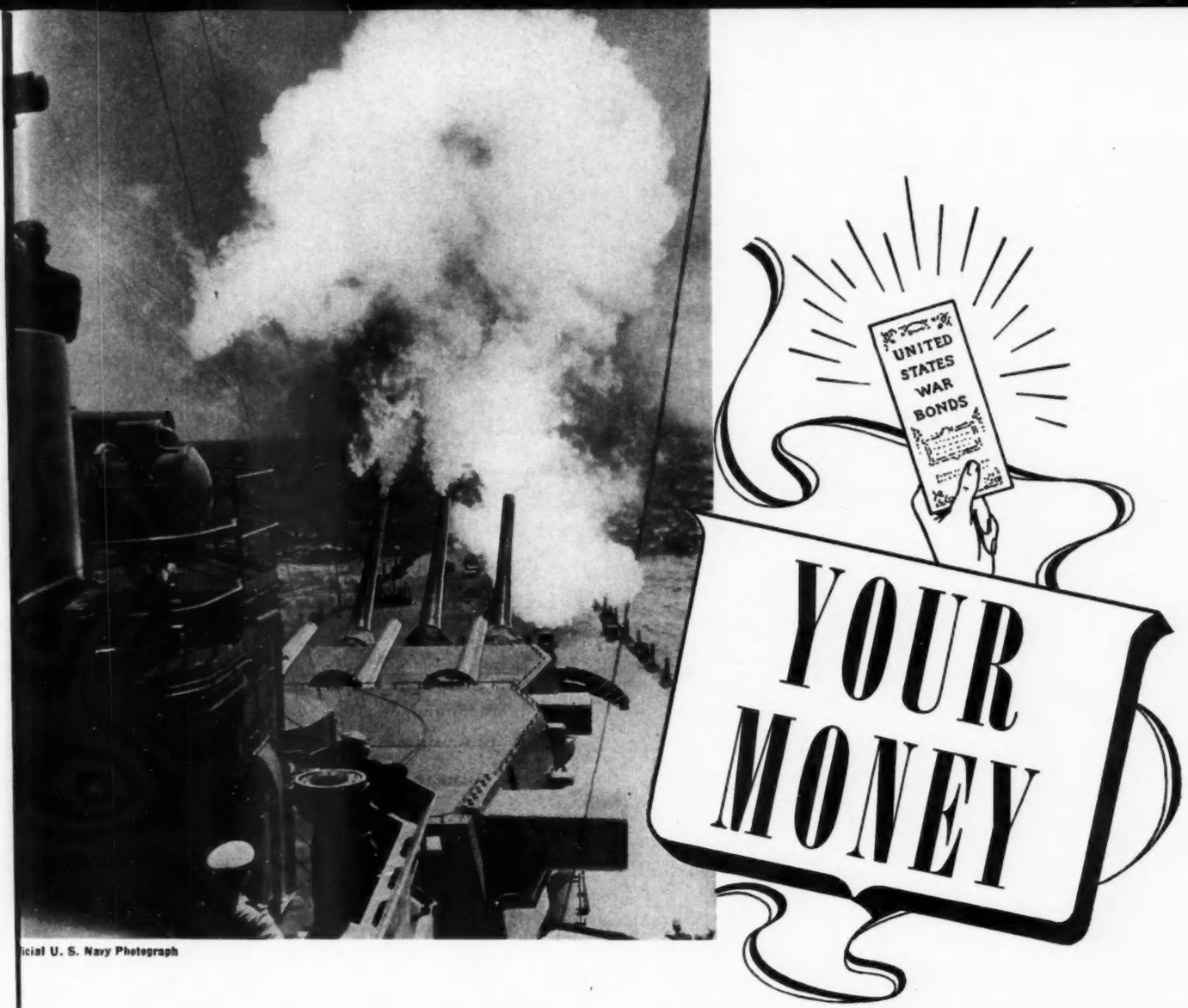
THE straight line is still the shortest distance between supply and delivery points, even when much of the span lies across a wide and practically bottomless swamp. On the United Gas system, a lateral which supplies Pensacola, Florida, and surrounding area with gas runs nine miles through Mobile swamp, heavily wooded, and subject to tidal fluctuations of brackish water with a range of several feet. Such conditions add greatly to the difficulty of maintaining the line, and have brought about a special laying technique, together with unusual steps to prolong pipe life and reduce expansion changes.

The 12-inch, ⅜-inch wall, screw pipe in 20-foot lengths, carries a collar leak clamp over each joint, and, enclosing this, a 1600-pound river clamp of the usual cast-iron pattern, with bolted halves. The "ground" in which the line is laid through the swamp is little more than a collection of partially decomposed vegetable matter and silt brought in with the tides. Forty-foot piling can be driven its length with four blows of a pile-driver tup, and merely jumping up and landing on the soil shakes it for 50 feet around. The bottom is a mattress of interlaced roots and fallen tree trunks, which, when cleared away, fails to offer solid base for supporting the pipe line.

The line is carried on cribs of 7-foot cross ties, set at 20-foot intervals, so as to furnish support under each river clamp. These cribs are built up until the line is carried some 12 inches above normal water level, with the joints initially placed in the center of the

**Heavy pile structures anchor each of the 11 swing stations installed to provide from 8 to 16 feet of travel in any direction in the horizontal plane as the line changes under temperature variations. Here the line is anchored to snub travel as it branches to form a triple river crossing.**

Photos Courtesy United Gas Log

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7-foot span of the ties. Since the line is subject to direct heat from the sun during the middle of each day, expansion shifts are many times those met in most pipe lines. The line will crawl under expansion, the large loops formed sometimes going clear off the ends of the piling supports and requiring special lifting operations to restore the line to grade. Eleven flexible couplings and swing joints are installed now to absorb this expansion shift, each of these being constructed so as to provide motion of from 8 to 16 feet in any horizontal plane.

### Corrosion Difficulties

Due to the brackish water, the saline content being greatly increased with each excessively high tide, corrosion of the line is a serious problem, especially on the lower half of the line, where drops will collect along the lowest point and start the formation of pits, frequently averaging as much as 180 mils in depth over considerable length of pipe, with pits as deep as 300 mils having been found. This, with a pipe wall of only 375 mils, can cause serious breaks and line losses unless closely watched and checked before deterioration has progressed too far.

The line, when found pitted in this manner, is cut into lengths of around 1500 feet, and each section rotated through 180 degrees, so as to bring the pitted section uppermost. This not only presents maximum cross-sectional metal at the point of greatest corrosion, but also places the pits in position where they may be filled by welding most easily.

**The line during a high tide caused by high winds along the Gulf, with only pier piling caps and the gauge bleeder line showing to indicate the presence below of a 12-inch high-pressure gas main. The maintenance crew travels alongside the line in a 26-foot launch to effect necessary repairs.**

The line, after being rotated a half turn, was coated with a corrosion-resisting paste to further protect it and, to prevent surface damage, a walkway was laid the length of the line, being carried on supports of heavy timber, formed to clamp around the pipe adjacent to each river clamp, and to support the ends of the 3-inch walk timbers well above the pipe itself.

In addition to preventing surface damage, and providing a safe walk over which line walkers might travel while inspecting the line for leaks, cribbing shifts and other failures which would require the maintenance crew, the heavy timbers are found to protect the pipe to a large extent from direct sunlight, and through the reduction of heat absorbed by the line, to cut down the excessive expansion travel.

Anchorage for the line at each of the swing sections, to prevent possible cumulative travel over the entire line, is obtained by driving piles deep into the muck, piles on either side of the line at these points serving to hold initial pile alignment, and to aid in controlling side motion much as the heavy transverse cleats on the tie cribs restrict lateral motion of the line in the stretches where it is free to form loops.

During high water, which occurs every time high winds drive the water in from the Gulf, line walking and necessary repair work of this line is carried out from boats, a 26-foot cabin cruiser serving in place of the usual service truck, and a skiff with an outboard motor taking the role of the usual pipeliner's pick-up truck.

The line is protected against extended gas loss with a check valve on the downstream side of the swamp, and at the upstream end a 24-hour duty dispatcher station is maintained, with meter equipment to indicate changes in throughput.

**Carried on timber cribs, the line is above normal water level, and is sheltered against direct sun rays by a walkway of 3-inch planks, bolted in place to stops clamped around the line at each of the 1600-pound river crossing clamps enclosing the line at 20-foot intervals. Stops on the cribbing guide but cannot stop lateral travel of line under expansion stresses.**

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# PRACTICAL OPERATING *Hints* FOR

### *1. MUD SAMPLING*

## Proportioning Pipe Permits Flow Check

**By varying height of outflow end, this 2-inch line will carry to sample collector any desired fraction of its capacity from total mud flow from well casing.**

FRACTIONAL sampling of the mud stream for representative cuttings is difficult if the entire stream is used, any container small enough to be carried filling so rapidly as to make the sampling practically instantaneous. By suspending a small pipe, as a 2-inch joint, so that one end will rest within the bottom of the larger pipe carrying the mud flow from well casing to ditch or screen, any amount of the flow up to the capacity of the sampling pipe can be secured simply by shifting the angle at which the 2-inch line discharges and the length of flow within it.

In the installation shown, the 2-inch line is practically horizontal, flow through the sampler being due to the velocity of mud flow at the time the branch stream enters the small pipe. By setting a container where the stream issuing from the sampler will fall into it, the diverted stream deposits a sample of the portion of main flow which the lower end of the pipe cuts, and enables the crew to determine formations and changes with a minimum of mud handling.

The sampling pipe may be suspended from main mud line, or carried on light horse over ditch.

Flow through the sampling pipe is of sufficient velocity to scour any deposits which may tend to collect, although any constriction may be thoroughly removed simply by laying the sampling line flat on the bottom of the main line for a few minutes to insure complete removal of any material possibly held by roughnesses of the small line.

### *2. DRILLING PANEL*

## Heavy Steel Housing Protects Instruments

MOUNTING the driller's control panel atop the drawworks affords maximum visibility of the various gauges and indicators, but places these units in a position where they may be easily damaged during certain well operations, while the drawworks is being transported on a truck or being erected at a new well site.

One contractor mounts the panel in a domed housing formed from pipe large enough to enclose the panel box, flanges welded to the corners of the cover being used to bolt the device in place on the drawworks housing.

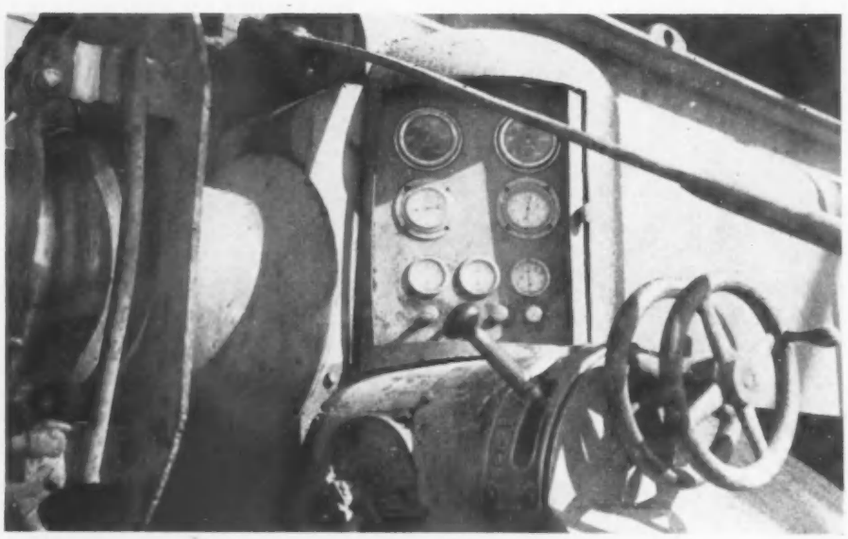
The portion of the pipe across the face of the panel is cut out to afford maximum visibility of all gauges, while a cover or door, formed from a section of pipe just small enough to slip within the housing unit, may be revolved within the cover to enclose all gauges and afford them protection against even heavy blows.

The domed cover of the device houses and hoods a light which shines directly on the gauges, but which is shielded so no direct glare may reach the driller or any portion of the working floor.

### *3. ENGINE CONTROLS*

## Dual Shafts Replace Complex Linkages

ELIMINATION of much linkage and easier control of the clutch manipulation mechanism on a large Diesel-powered drilling rig has been economically accomplished by one drilling superintendent. Because the clutch and speed control units were located at ground level, some eight feet beneath and behind the drawworks, it was necessary either to install a cumbersome and difficultly operated lever-and-linkage



**Domed steel shelter enclosed and protects control indicator panel, with sliding door within housing to permit safeguarding of gauges and dials when drawworks is moved.**

# THE DRILLING RIG

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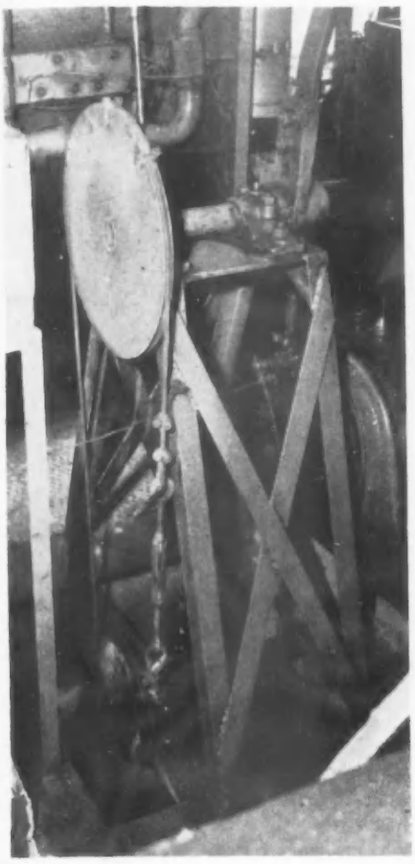


**Cable-connected sheaves on manual and valve control shafts avoid complicated linkage.**

system, or to devise an easier, more directly controlled method.

An A-frame stand made of reinforced angle members was installed over the clutch control shaft, and on this were mounted the bearings and shaft on which the vertical clutch arm is keyed. Two shop-made sheaves were then installed, one of 10-inch diameter on the upper shaft and one of 12-inch diameter on the lower shaft. Distance between centers was 45 inches. The sheaves were connected with a ⅜-inch steel cable, clamped to the outer periphery of each of the sheaves by means of two small cable clamps embedded in the sheave and welded in place, as shown. A turnbuckle linking the cable ends provides means for keeping the line taut. The small cable clamps on the top of the upper sheave and the bottom of the lower sheave do not interfere with the motion of the controls, as there still remains ample travel of the sheaves—at least as much as would have been available with the customary system of levers and links.

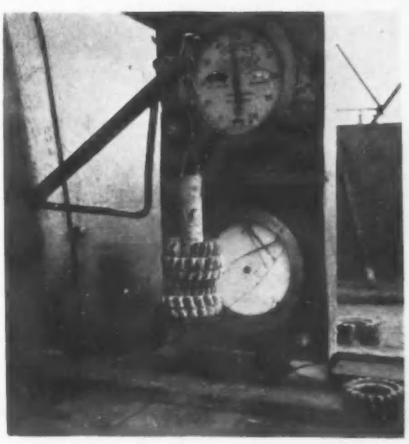
The simplicity of this positive action control unit greatly facilitates assembling and disassembling for purposes of servicing as well as when the drilling equipment is being moved.

### 4. BRAKE SETTING

## Variable Weights Provide Close Check

FREQUENTLY the driller finds that available weights to hang on the brake lever do not give just the degree of feed which he wishes, and it is necessary to hunt around for the slight additional loading required.

By making a special hanger to suspend from the lever end, and using weights of varying sizes, such regulation is easy. The holder consists of a short length of 2-inch pipe, with a wide disk welded at the bottom and a short bail at the top. The weights are made of worn out cutter elements from a rock drill bit, of different diameters and thicknesses. Each section has a small slot cut through it to the center or bearing hole, so that the unit can be slipped over the bail of the hanger and allowed



**This spool supports any desired weight of notched bit cutters to regulate wire line feed-off.**

to rest on the units already in place, or on the disk if it be the bottom section. The slots are wide enough to clear the bail easily, but do not permit the weights to work off the pipe center, which is nearly the size of the space allowed for the bearing in in the bit unit.

By taking off light weights and replacing them with wider units, it is possible to obtain any desired load on the lever, and thus to insure accurate feed of the drilling line without requiring manual assistance.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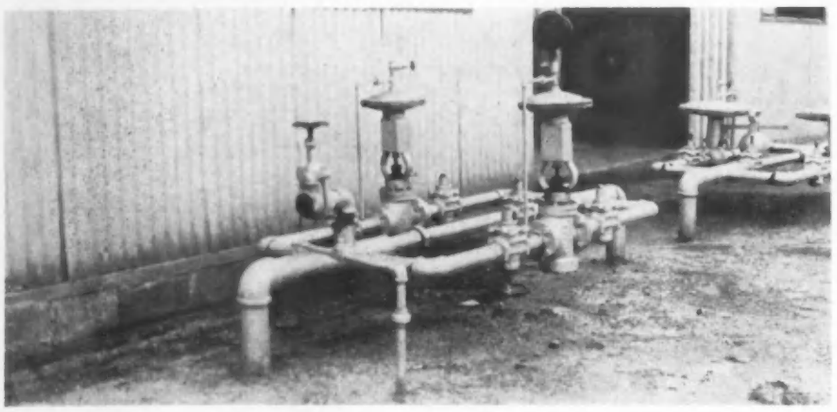
# PRACTICAL OPERATING *Hints* FOR

### 1. FUEL CONTROL

## High-Pressure Air Betters Engine Run



**By means of auxiliary regulator, check valve, and hand control valves, high-pressure air may be admitted to fuel line to aid in obtaining desired full-burning mixture.**

EACH of a long row of horizontal gas-engine driven compressors "pinged" frequently because of certain characteristics of the fuel, prominent among which was the inclusion of certain sulphur compounds which pre-ignited under heat of compression. After considerable experimentation, the chief engineer found that the engines ran cooler and more quietly when diluted with excess air, in quantity greater than could be handled through the mixing valves on the intake.

Since there was excess capacity in the plant compressor, some of the surplus was used for dilution of the gas. A half-inch connection was tied in to the fuel manifold at the regulator, admitting air directly into the gas stream just before reduction to insure adequate mixing of air and gas. A check valve prevents back-flow of the mixture in case of gas pressure drop, and protects the line against possible explosion.

No volume rule was worked out for the dilution process, the proper air proportion being determined by checking engine performance until the desired reduction in ignition knock was attained. The method has subsequently been introduced in other plants operated by the same company with satisfactory operating results.

### 2. LINE PRODUCTION

## Removable Guard for Branch from Gas Main

WHEN a small line is taken off a larger high-pressure gas main, there is always danger of the stub being broken off if the line be hit, and the possibility of vibration in the main causing the weight of the valve to offer a nodal point where vibrations would accumulate, possibly causing rupture of the nipple near the weld.

To guard the valve, and also to support the branch and offset the pressure tending to move it from the main, one company welds heavy pads on the main at each side of the branch, tapping them for ¾-inch bolt thread. A formed bracket is then set over the valve, snugly held against the outer end of the valve body when the retaining bolts in the pads are pulled tight.

If the bracket is added after the branch line is made up, a notch is cut to fit around the line instead of the hole provided when the brace is made on at the time of valve installation.

When the bracket is installed at the time of the line tie-in, the work is simplified if the main line pads be bolted to the guard member, and it in turn temporarily clamped in place. Welding the pads is then atuomatically located where desired support is given the unit.

**Heavy steel bracket, fitting snugly against valve body and bolted to welded-on pads on the main line, effectively guards the branch against line pressures and reduces damage.**

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# THE PIPELINER

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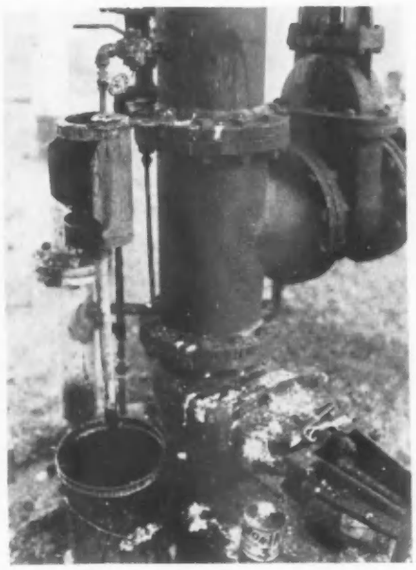
### 3. SAMPLING

## Enclosure Prevents Wastage of Fluid



**Short nipple, flanged and with open side, serves to curb splatter when drawing oil sample.**

A SHORT section of 6-inch pipe, one side notched and cut open to form two flaring shields, has welded-in top and bottom disks which are tapped respectively for half- and one-inch pipe threads.

This section is cut in on the sample line, with a raised grating or grill in the bottom to prevent the drain line from becoming clogged. Samples of oil may be caught within this enclosure without spray being blown around the lease or staining adjacent piping. The drain pipe is made long enough to reach to a 5-gallon can, set conveniently on the ground below the device, so that waste oil may be caught and returned to the sump system for proper disposal.

To prevent the entry of dirt when the trap is not used, a sliding door within the pipe may be pulled across the opening, sealing the interior effectively.

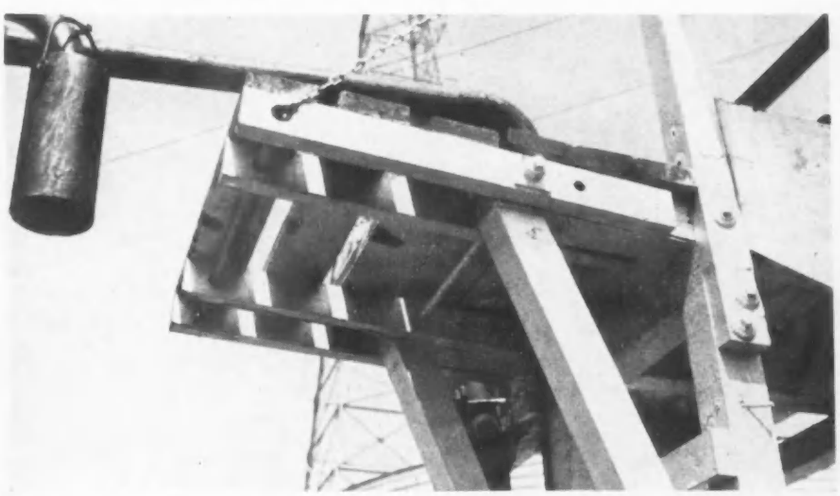
### 4. LOADING RACKS

## Platform Safeguards Valves and Spouts

PROVISION of a hinged platform extension at a truck-loading rack enables the control valves to be carried some 10 feet from the ground, and thus well out of reach of unauthorized manipulation.

The hinged section of the walk is of heavy timbers, pivoted with through bolt to braced extension of walkway, with a section of 2-inch pipe built into the outer end of the supporting members of the platform. Through this pipe is threaded a chain, the ends being attached on the extended posts of the structure to take the load at the end of the hinged section.

By taking up on the chain and padlocking it when the platform is folded back or raised vertically against the posts, the control valves are adequately isolated and protected from molestation.



**This hinged platform, supported horizontally by chains for loading, may be swung vertically and locked, effectively preventing tampering with flow valves or filling pipe fittings.**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On the seven seas and in foreign battle fields the name "LUFKIN" will be found on war equipment and parts. Our facilities, like so many oil equipment manufacturers, have been entirely devoted for sometime to the war effort. Lufkin quality in war production means the same high quality precision-built, trouble-free standards, the reputation for which Lufkin established in peace times.

Almost 10,000 Lufkin pumping units are in the fields today producing oil so necessary to keep 'em sailing — flying — rolling. Production of oil with Lufkin units means production with minimum man-power and minimum maintenance expense.

*Lufkin units are still available in limited quantities from stock. While manufacture of these units has not ceased, it is desirable that you anticipate your requirements as far in advance as possible.*

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**PUMPING UNITS**

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# ☆ ☆ ☆ ☆ WASHINGTON ROUNDUP ☆ ☆ ☆ ☆

**Government-Sponsored Oil Line Included in Post-War Plan**

»

**PAW Complains Operators Not Ordering Needed Supplies**

»

**Texas-Illinois Products Line Building Starts This Month**

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**Ickes Not Being Rushed About Increasing Oil Prices**

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By B. F. LINZ
Washington Correspondent

☆ ☆ ☆ ☆

A "BLUEPRINT" for post-war return to normalcy, envisaging a partnership between the oil industry and the government and safeguards against any future recurrence of the tremendous difficulties of providing needed war materials which have not yet been fully overcome, was submitted to Congress by President Roosevelt last week.

Hinting strongly of a greater degree of federal control and regulation than the industry ever before has known in peacetime, the program, outlined by the National Resources Planning Board, in a five-and-a-half-pound document, nevertheless stresses the need for private initiative in the transition back to a peacetime economy, with the government acting largely as a silent partner, furnishing capital and counsel.

But while these plans, which also provide for "cradle-to-grave" social security, sought to chart the uncertain future, the industry and PAW, became concerned with a more immediate problem arising out of the draining of material stocks by operators. With current consumption of oil-field goods known to be greater than purchases, fears arose that operators were cutting into inventories to a much greater extent than required under the limitation to a 90-day supply and were not taking advantage of their ability to make purchases of the materials earmarked by WPB and PAW for new production operations.

Lifting of the ban on pleasure driving but a further reduction in the gasoline value of "A" coupons to 1½ gallons is contemplated by OPA, for introduction when coupons for the next period become valid March 22, it is reported. This concession, which will gain OPA no gratitude when its import is fully realized, would give holders of "A" books the privilege of deciding whether to use their 90 miles of driving for pleasure or for going to store, church and school. Under the present restrictions, "A" coupons are good for three gallons and the holder may use it all for necessary driving but not for pleasure. Under the original formula, when coupons were worth four gallons, 90 miles a month was for necessary driving.

The plan, however, still is in the tentative stage and it may be that wiser heads will see the danger of what amounts to halving the current ration without any real advantage to car owners and, in fact, reducing consumption at a time when the heating season is nearing its end.

Big argument for the scheme will be the necessity for increasing gasoline quotas on the East Coast to take care of the agricultural demand.

## PAW Asserts Purchases of Producing Equipment Short of Quantity Alloted

PAW officials are considerably concerned over the materials situation indicated by failure of producers to avail themselves of the opportunity to secure material set aside for the industry and the indicated resultant drain on inventories.

The situation was disclosed by Don R. Knowlton, director of production, in his March report to the PIWC production committee, in which he said:

"Data assembled in this office indicate that the material authorized for purchase by the production branch of the industry is falling considerably short of the quantity of the material alloted to the production branch for the last quarter of 1942 and the first quarter of 1943. This situation probably results from the fact that the industry has been operating to some extent on a backlog of material in inventory.

"While it is imperative to the industry to liquidate surplus stocks now defined as material in excess of a 90-day supply before acquiring new material, it is equally important that adequate working inventories be maintained. Operators should guard against excessive depletion of their stocks, as such depletion may seriously hamper their drilling operations and thus adversely affect the overall 1943 drilling program which is so vital to the prosecution of the war. Under existing regultaions operators are permitted to secure material to maintain minimum inventories and within this limit should endeavor to maintain adequate stocks to facilitate their operations."

Knowlton's report indicated a situation which eventually may pose a serious problem. On one hand, there is always the danger that WPB officials, under pressure to supply more materials than are available, may come to the conclusion that the failure of the oil industry to acquire all the material authorized means that it was getting more than it needed; on the other, there is the chance that the industry may so seriously deplete its inventories as to be without adequate stocks at a time when new material is hard to get.

It is possible that the stringent PAW controls have exerted a psychological effect upon the operators, influencing them to raid their own inventories much deeper than they should or is safe, since it is not believed that inventories were "excessive to the point that would support reduction by the amount of material known to be consumed in operations of the last few months."

It is known that authorizations for the purchase of new material, and particularly of tubular goods for oil field operations, have not kept pace with the actual consumption and there have been reports which indicate that the industry's surplus has been worked off. "PAW is anxious that the industry be economical in its use of material, and its various orders have been designed to insure that result. But it is equally anxious that a minimum of wildcats be drilled this year, and is determined that nothing shall interfere with the prompt filling of every military requirement, accordingly it does not look with favor upon the starvation of inventories and believes that the industry should maintain working stocks at a level which will insure ability to sustain operations at the level aimed at by the government.

On March 12, Assistant Deputy Administrator Robert E. Allen sent a wire to all district directors of materials asking them to spur operators into filing applications for materials to be used during the second and third quarters under the controlled materials plan.

"Because of the limited number of applications being received for bills of equipment and materials for the second and third quarters, it seems apparent that petroleum operators do not realize the necessity of filing their applications if they expect to have their supplies scheduled for manufacture and delivery by the mills," he said. "Because of the 90 or more days now required for tubular goods and many other items of petroleum equipment it would be well for you to urge operators to prepare and file at once all requested CMP-4 appli-

cations for the projects they contemplate through the second and third quarters if long delays due to capacity mill schedules are to be avoided.

"The acquisition of material under the provisions of CMP regulation 1 is, of course, separate and apart from the use of such material under the M-68 series orders or successor orders which deal with the efficient use of material where purchased or removed from stock. It is urged, therefore, that all operators who contemplate drilling wells, laying pipe lines, building gasoline plants, refineries or other facilities to immediately file with PAW their application for allotment of the materials they need for other purposes than maintenance, repair and operating supplies, so that an allotment of such required materials may be made to each operator in time to obtain delivery during June and the third quarter."

Applications are coming in all right from the big companies which have special departments for development operations, PAW officials said, but the small operators, less accustomed to the paper work of government control, are slow in meeting the requirements.

### *Drilling Costs Must Be Deducted Year Incurred*

Oil producers keeping their books on the accrual basis may not place drilling expenses in a reserve, until it is known that the well is either a producer or a dry hole, and then deduct them in income-tax returns, under a decision of the United States Tax Court.

Refusal of the Commissioner of Internal Revenue to approve the practice was appealed by Great Western Petroleum Corporation, which argued that it should be allowed to wait to deduct intangible drilling costs until after the well is completed and known to be successful or dry, pointing out that this was a general practice in the industry and asserting also an option included in Treasury regulations which provides that the cost of drilling unproductive wells shall be deducted from gross income for the year in which the well is completed.

The bureau ruled that intangible drilling costs should be deducted in the year in which they are incurred, and the court concurred, holding that "when a taxpayer is on an accrual basis, a postponement of the deduction of expenses incurred in a particular year is not obtained by placing such expenses in a reserve account."

### *Ickes Investigating Reports Of Florida Pipe Line Leaks*

PAW continues opposed to the proposed Florida barge canal, doubtful of the claim of proponents, that it can be built in ten months and certain that it will not fulfill the claim that it could entirely relieve the East Coast shortage, Ickes said March 11.

Oil has been running through the trans-Florida pipe line for some days, although it apparently has not yet reached Jacksonville and shortly will aid in meeting the situation along the Southeastern coast, he said.

Told of reports that the line was having mechanical difficulties and leakage, the administrator said he would institute an immediate investigation.

# Government-Sponsored Oil Pipe Lines Included in Post-War Plan of NRPB

A government-sponsored enlargement and integration of oil pipe lines was proposed last week by the National Resources Planning Board as part of a comprehensive program for the post-war transition of the country to a peacetime economy.

Reports of the board covering both the demobilization of the war plant and the expansion of social security were submitted to Congress March 10 by President Roosevelt.

While the report on industrial planning was aimed chiefly at quick and orderly adjustment of the nation's activities from a wartime to peacetime basis, there was also evident a determination that many of the set-backs given the war program by lack of vital facilities shall not happen again.

Pointing out that peace with all nations may not come simultaneously and that we may have a victory in one field of battle and necessity for continued fighting in another, the board warned against hopes of a quick transition from war to peace and foresaw the possibility of demobilization extending over a period of months.

"War weariness and back-to-normalcy" cries will face our leaders at the end of the fighting," it forecast, and if submitted to "too much confidence and boom may in turn lead to too speedy relaxation and end in an even greater depression with inadequate or weakened tools in the hands of the government to combat it."

Of direct interest to the oil industry are the board's suggestions for the demobilization of the war machine.

Before the close of the war, it declared, government agencies should arrange for the orderly conversion to civilian use of unneeded war production facilities in one or more of the following ways:

Proceedure to dispose of government-owned plants to private operators willing and able to proceed with conversion to peacetime use and to early operation;

Prevention of monopoly control of plants in the interest of a single group or industry, with large government-financed war production plants, especially those producing basic materials, distributed among numerous operators to encourage healthful business competition.

Planning for a more desirable regional distribution of manufacturing from the standpoint of national defense and local diversification by retaining in operation selected plants, financed in new industrial areas during the war by Defense Plant Corporation or indirectly by government allowance of rapid depreciation;

Technical assistance to private operators of war plants to find the most appropriate peacetime use for their buildings, equipment and labor skills in making products which could be economically distributed from the community in which the plant is located;

Provision for plant rehabilitation grants to be used for conversion of plant to peacetime production and with great contingent on production of peacetime goods within a specified period;

Granting of low-interest government loans to projects approved for conversion;

Immediate provision in federal tax laws, for establishment of a "post-war conversion reserve" limited to use within a short period after termination of war contracts.

It was stressed, however, that we never again should permit our industrial machine to get into the condition of unreadiness which prevailed at the outbreak of the war, and to that end the board recommended that before the end of the war, the war facilities to be retained in operation or in standby condition must be selected in order that communities and the operating industries can adjust their plans to meet the standby status of such plants.

In addition it recommended that certain war contracts be continued in present or negotiated for plants needed for maintainance of military forces, for experimental production of improved military equipment, for requirements under existing lend-lease agreements, for stockpile war reserve, or for other governmental needs, so far as possible in areas where the replacement of war production by peacetime activity is likely to be slow and difficult.

Another safeguard suggested called for the extension and new forms of joint private and governmental partnership, in one of a number of forms, in the direction of those industries of crucial importance in both a wartime and a peacetime economy in which the government has made great investments. Specifically requested as lines in this category were aluminum, magnesium, shipbuilding and aircraft, but not rubber.

Demobilization of wartime economy controls will be a slower process the board held, because of the need for continuing allocations of scarce raw materials, rationing of scarce consumer goods and price and wage controls until supplies become adequate, but the policies for economic stabilization and production control in many cases be reversed and instead of endeavoring to restrict consumption the attempt will be to spread existing supplies as far as possible both at home and abroad.

In the case of oil and certain other industries based on scarce raw materials, or with rapidly diminishing reserve or supplying power and fuels, the report said, wartime experience should be utilized to develop such regulation as may stimulate the effective functioning of competitive business in normal times, and because of the public importance of these industries and the desirability of continued federal control of their operation the government should retain control over patents and properties seized from enemy aliens and operate them directly or license their use in such a way

# This Year Rubber Is Tapped from Test Tubes

## *Synthetic Rubber Already Is Working for Users of Mechanical Rubber Goods*

War production is up threefold. But the vital rubber stock pile is dwindling fast. This is the year of crisis in rubber.

There is only one solution . . . the production of synthetic rubber in steadily increasing tonnages . . . synthetic rubber to take over jobs once handled by natural rubber . . . to perform new tasks, serve in new applications created by wartime need.

One of the first synthetic rubber plants in the Government's program was built and is being operated by United States Rubber Company . . . another soon will be in production.

Our engineers have been working with synthetic rubber since 1921. During this period they have learned that no one synthetic should be used for all types of mechanical rubber goods. They have found where and how synthetic is superior to natural rubber, where it is equally as good, where it falls short. They know what uses each of the five basic commercial types of synthetic rubber is best suited for — Neoprene, Buna-S, Buna-N, Butyl, or Thiokol—and how to compound the specific synthetic rubber for the specific task. U. S. Rubber has used all five types and knows which one to select for the performance required.

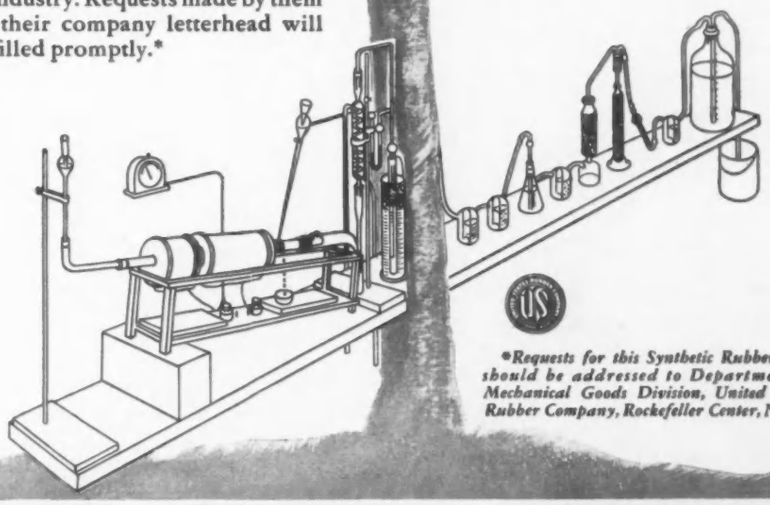
Information based on the results of vast experiments and practical applications of synthetic rubber has been incorporated in a new comprehensive book, *The Five Commercial Types of Synthetic Rubber.*

This informative book traces the history of synthetic rubber from the earliest experiments of Michael Faraday to the present. It discusses each of the basic types of synthetic rubber, tells where it has been used successfully in United States Rubber Company products, and compares its properties with natural rubber. It tells how synthetic rubber is made. It is a detailed answer to the most vital question of the day.

We feel that *The Five Commercial Types of Synthetic Rubber* is a publication of real importance to men of industry. Requests made by them on their company letterhead will be filled promptly.*

The successful use of synthetic rubber in mechanical rubber goods and the insurance of fully dependable service depend largely upon the skill of the manufacturer and compounder. Each of the five basic commercial types of synthetic permits a myriad of variations.

The United States Rubber Company has been developing and improving rubber products for one hundred years. Today, the same vast resources for research and development that resulted in some of the most spectacular achievements in the rubber industry are being devoted to the problem of synthetic rubber. A great backlog of knowledge already has been built. More is being constantly added.



**Requests for this Synthetic Rubber Book should be addressed to Department 37, Mechanical Goods Division, United States Rubber Company, Rockefeller Center, N.Y.C.*

**UNITED STATES RUBBER COMPANY**

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as to encourage competitive development by private operators.

"For the longer-range development of an expanding economy after the war, our free enterprise system and economic freedom for the individual will demand constant assistance from government and a renewed sense of vigilant responsibility on the part of all citizens" the board declared, but added "The main reliance for an effective consumer demand must come from private activities taking the lead in opening of new enterprises and in using our new productive capacity."

Integration of oil pipe-line facilities was suggested by the board as one of a number of activities toward the improvement of physical facilities for which there is a public responsibility.

This plan calls for establishment of a transportation agency to take the lead on the provision of new facilities, consolidation of railroads, modernization of highway transport, expansion of air transport, new river and harbor developments, and pipe lines.

"The transportation agency should, in cooperation with pipe-line companies or through a public or mixed corporation, plan and carry out an enlargement and integration of the network of major pipe lines under which the nation's essential liquid fuel supply can be assured in future emergencies," it explained.

## Crude Shortage in Illinois Described as Serious

Steps to insure continued operation of Midwest refineries in the face of a serious crude oil shortage in District 2 are being taken by PAW, but there is little chance of a quick increase in production it was disclosed March 11 by Harold L. Ickes.

"We know the situation is serious and a lot of it goes back to the failure of Illinois to adopt a conservation law," the administrator said, revealing that he had sent a letter to Governor Green urging that the legislature enact such a measure this year.

"We want somebody to have some power in the state to require sane practice in production of oil, he explained, adding that while legislation would not directly increase output it would have an indirect effect by cutting out waste."

Discussing the possibilities of increasing output, Ickes said PAW generally is opposed to closer well spacing in Illinois, in the belief that critical materials that have been earmarked for the drilling of wells probably would bring in more oil in other sections.

## "Cole" Committee Continuation Approved

The House Rules Committee on March 11 approved a resolution to continue the oil investigation of the House interstate and foreign commerce subcommittee over which former Representative William P. Cole, Jr., of Maryland presided for a number of years.

Following Cole's resignation last year to become a judge on the customs court, Chairman Clarence F. Lea of the full committee took over the leadership of the oil group, the life of which expired at the end of the last session.

## Ickes Seeks Approval of Products Line Extension

Evidencing PAW's determination to go through with the construction of the 20-inch products pipe line as originally planned, starting from the Houston-Beaumont area, Administrator Harold L. Ickes last week made public his application to WPB for approval of the second and final section and Deputy Administrator Davies disclosed that orders have been placed for all pipe needed for the first leg.

"In the light of current developments, particularly in the military sphere, and the future prospects so far as any of us can anticipate the future, it is my judgment that the 20-inch petroleum products pipe line from Texas, the first installment of which to Norris City, Illinois, and Seymour, Indiana, has already received the approval of the War Production Board, must be completed through to the Eastern Seaboard," Ickes told WPB.

"We cannot await actual need—a need which as applied to petroleum may well be of the most critical character in the prosecution of the war on actual battlefronts."

Davies revealed that not only has the pipe been ordered, but negotiations are nearing completion for motors, pumps, valves, transformers and supplemental equipment and material, and construction work is to get under way by the end of the month.

## Lend-Lease Pipe Diverted To Domestic Oil Operators

Approximately 57,000 tons of tubing, casing and drill pipe in various sizes and lengths has been diverted from lend-lease agreement and diverted to the United States oil industry. It is available under certain conditions specified by PAW, the Metal Reserve Corporation, and the United States Treasury Department.

Operators desiring any of the pipe should contact their district PAW office.

Tubular Goods owned by the Metals Reserve Corporation, Washington, D. C., and offered for sale through the Petroleum Administration for War Office.

2⅜-in. O.D. 4.7-lb. Seamless E.U.E. Tubing 8 Rd. Thd. Range No. 1 J-55—3500 tons.
2⅞-in. O.D. 6.5-lb. Seamless E.U.E. Tubing 8 Rd. Thd. Range No. 1 J-55—9300 tons.
3½-in. O.D. 9.3-lb. Seamless E.U.E. Tubing 8 Rd. Thd. Range No. 1 J-55—2300 tons.
4½-in. O. D. 12.75-lb. Seamless E.U.E. Tubing 8 Rd. Thd. Range No. 1 J-55—3000 tons.
2⅞-in. O.D. 10.4-lb. Grade D Internal Upset Drill Pipe 8 Rd. Thd. Range No. 2—100 tons.
3½-in. O.D. 13.3-lb. Grade D Internal Upset Drill Pipe 8 Rd. Thd. Range No. 2—200 tons.
4½-in. O.D. 16.6-lb. Grade D Internal Upset Drill Pipe 8 Rd. Thd. Range No. 2—700 tons.
5-9/16-in. O.D. 22.2-lb. Grade D Internal Upset Drill Pipe 8 Rd. Thd. Range No. 3—1300 tons.
6⅝-in. O.D. 25.2-lb. Grade D Internal Upset Drill Pipe 8 Rd. Thd. Range No. 3—4300 tons.
6⅝-in. O.D. 31.9-lb. Grade D Internal Upset Drill Pipe 8 Rd. Thd. Range No. 3—1300 tons.
5⅜-in. O.D. 17-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—700 tons.
5⅜-in. O. D. 19.5-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—200 tons.
5⅜-in. O.D. 22.5-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—100 tons.
6⅝-in. O.D. 20-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—18,000 tons.
6⅝-in. O.D. 24-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—5000 tons.
6⅝-in. O.D. 26-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—2000 tons.
8⅝-in. O.D. 28-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—1200 tons.
10¾-in. O.D. 45.5-lb. Seamless Casing 8 Rd. Thd. Range No. 3 J-55—500 tons.
10¾-in. O.D. 68-lb. Seamless Casing 8 Rd. Thd. Range No. 2 J-55—2000 tons.
16-in. O.D. 75-lb. Seamless Casing 8 V Thd. Range No. 1 J-55—1500 tons.

## Manpower Order Again Stresses Oil Is Essential

War Manpower Commission officials still are attempting to offset the results of last month's "work or fight" order under which draft-age men with dependents engaged in specified non-essential activities were warned to get into war industry or face the loss of their 3-A status. The order resulted in a stampede away from the oil and a number of other industries, to halt which WMC Chairman McNutt and Administrator Ickes issued a joint statement stressing the vital importance of oil in the war program and exhorting oil workers to stick to their jobs.

Last week the WMC was forced to go further and in an order March 9, instructed United States employment offices not to attempt to transfer truck drivers or maintenance mechanics employed by distributors of fuel oil to war industries or other essential jobs, despite the fact that fuel distribution has never been classified as an essential activity. While the order does nothing to change classification, in effect it establishes every branch of the oil industry from original to final distributor as essential to the war effort.

## PAW in No Hurry About Price Increase

Decision of PAW on the price increase recommended by the PIWC in a report adopted at its February meeting will be reached within the next two or three weeks, Ickes promised March 11.

The administrator rebuked those who urged a hasty decision pointing out that the council studied the problem for something like two years before issuing its conclusions, whereas he has had its recommendations, but little more than a month.

## Ickes Reports Progress In Aviation Gasoline Supply

"Enormous" progress has been made with the aviation gasoline program, and from now on more of the new plants will be coming into operation, but preferences on priorities given the rubber program have cut very heavily into future supply possibilities, Ickes told a press conference March 11.

The stepping up of the rubber program will affect not only total production but the timing of the opening of additional plants which will be badly needed, he said.

The situation with respect to lubricating oil is more comfortable, although the fact that 5 gallons will be needed

# 4 WAYS to get more service from WIRE ROPE

Yes, wire rope is tough. It can stand up to the most rigorous service—and ask for more.

But that's no reason to abuse it. With a little care, by applying a few simple rules, you can get a tremendous amount of extra service from your rope.

## 1 Break it in with light loads

For example, when breaking in a new rope, don't slam on full power and speed right off the bat. Begin with fairly light loads. Operate at moderate speed. Give the strands of the rope a chance to seat down snugly and uniformly upon the core, so that each strand is carrying its fair share of the load. This way, the rope will assume its proper "constructional stretch" without damage, and you'll be assured of better spooling and easier handling throughout the entire life of the rope.

## 2 Treat it with consideration

After the rope is broken in, you can safely use whatever speeds and loads it was designed for. But don't be unnecessarily rough, even then. A smooth, gradual application of power is just as efficient as slamming into the load with a jerk. The same is true of braking. It's the heavy jerks and surge loads that beat the guts out of a piece of rope. Nine times out of ten these can be avoided without losing time.

## 3 Know your rope

For example, if you're using a flexible 8-strand rope for high-speed work, don't overload it. This rope is built to withstand bending fatigue and fast operation—not for heavy hogging lifts. The opposite is true of heavy-duty 6-strand rope. Lift with it—but don't try to break speed records.

## 4 Right maintenance means plus service

Don't neglect the few simple maintenance precautions which require so little time yet return so much in extra service. Keep your rope properly lubricated. Don't operate it over sheaves that are abraded, damaged, or out of line. Fasten clips in the approved manner. Cut off a short length from the drum end of your rope from time to time so that "grief spots" are relocated over sheaves and drums.

*Wire rope is now a war weapon. Its proper use is a service to your country and to yourself. If you want good, dependable rope, and friendly service, get in touch with the Bethlehem Wire Rope distributor in your territory. He's always ready and willing to serve you.*

**Bethlehem Manufactures Wire Rope for all Purposes**

for every 100 gallons of aviation gasoline will raise a problem when the thousands of planes now programmed go into service. However, Ickes said PAW is preparing to increase production and is confident of being able to meet all demand.

At the Capitol, Senator Joseph C. O'Mahoney of Wyoming called for an immediate all-out effort to increase 100-octane gasoline production to take our flyers to Berlin and Tokyo, and announced the major companies have agreed to develop gasoline production from Wyoming crudes at a plant to be constructed near Casper. Two plants already are being built in Wyoming he said.

### Steel Box Cars Move Oil in Large Quantity

Seen by ODT officials as a promising new development which may help deal with the oil-transportation problem, the B and O Railroad has reconstructed a standard automobile-type steel box car to carry a load of 12,200 gallons of oil, considerably more than the average tank car handles.

Four steel tanks encased in wooden boxes were fitted into the car, which has had trial runs, moving fuel oil from Baltimore to Washington.

If further tests prove the advantages of the experiment and the necessary material can be obtained, it was said, ODT may recommend the conversion of several thousand cars, figuring that each thousand cars could add more than 15,000 barrels to daily rail deliveries. However, in view of the shortage of steel, studies are being made of possible substitutes for the metal in the building of the tanks.

### Prospect Eastern Pleasure Driving Ban to Continue

Indications are that administration officials concerned with oil will contest any effort to secure elimination of the ban on pleasure driving. Price Administrator Prentiss M. Brown warned March 11 that essential consumption of motor fuel will increase tremendously this summer all through the East Coast area, fuel-oil reserves for the next winter must be built up and new military activities may complicate the situation.

Ostensively an appeal to the public to conform to the prohibition on pleasure driving, Brown's statement was seen in many quarters as an attempt to prepare it for continuation of the ban when more pleasant weather arrives.

He pointed out that the movement of commercial vehicles is always greater during spring and summer, farmers already are beginning to need more gasoline for plowing and planting and transportation of migratory workers and at the height of the crop season this summer, East Coast farm vehicles are expected to use 170 percent more gasoline than at present. Tractors alone will use more than 100,000,000 gallons of gasoline this year along the seaboard, he said.

"Should military activities overseas increase, as they promise to do," he continued, "the demands on Eastern supplies of fuel oil and gasoline will become heavier during the summer months.

"Then there is the need to build up fuel-oil reserves during the summer in anticipation of the needs of another winter. According to PAW, petroleum stocks in the East could be built up by many millions of barrels before next October 1. This means that between April 1 and next October we must bring into the East each day many barrels of petroleum products more than we consume."

### Oil Shipments to Spain Are Negligible Amount

Bulk shipments of oil to Spain were cut off more than a year ago, it was disclosed March 12 by Under Secretary of State Sumner Welles.

In a report to Chairman Bloom of the House Foreign Relations Committee, Welles revealed that the last bulk shipment went to Spain in February, 1942, and any future shipments to that country from South America will be subject to agreement by the British and American governments and the joint chiefs of staff.

Exports of oil and products to Spain from the United States amounted to 227,347 metric tons in 1941 but only 17,771 tons in 1942, he said. "These are the only shipments made from the United States in the last two years," he told Bloom. "The last bulk shipment from this country occurred on February 19, 1942."


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## Oklahoma Proposal Would Aid Secondary Recovery

Unitization or joint-operation of oil and gas properties is the subject of a bill now pending before the Oklahoma legislature. The bill proposes a voluntary method of operation whereby lessees in the proposed unitized area agree to the unit plan; or a majority-control system under which at least 80 percent of acreage ownership agrees.

The bill was drafted by the Secondary Recovery Committee of Kansas and Oklahoma for the purpose of providing a working vehicle whereby secondary-recovery methods can be profitably applied in the many pools of both states, now depleted by routine methods of production. Included on the committee are 40 members from the industry's associations, and also state representatives.

In its present form the plan would not be applicable to any tract not in a stage of settled production unless the lessee of such tract would agree, nor would the plan be in effect in pools where the top of the pay horizon is greater than 6250 feet.

## Plan Using Casinghead Gas at Reed City

Casinghead gas from Reed City field will be used for domestic fuel at Muskegon, Michigan, under a plan proposed to be worked out this spring, and involving moving a gasoline plant from Grand Rapids field to Reed City. Existing lines which transport dry gas from shallow wells in the field will be used. The plan was proposed after a committee failed to agree on the merits of reinjecting the gas into the Monroe producing horizon. Currently only 25 percent of the wet gas produced is used for fuel in the field, and 3 to 5 million feet are available.

## Oil Industry Pays Big Part of Texas Tax Bill

More than 52 percent of all business and property taxes paid in Texas during 1942, came from the petroleum industry, with the grand total amounting to more than 94 million dollars.

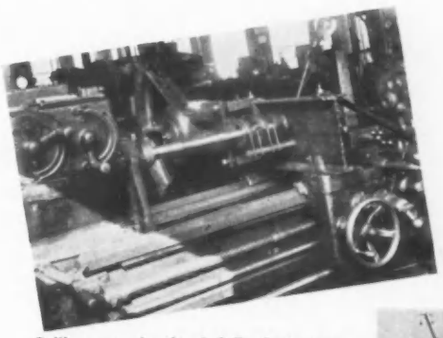
In its new book, "Important Facts About Texas Oil," released by the Texas Mid-Continent Oil and Gas Association, it is pointed out that including all local tax levies, the oil industry now pays 40 percent of all taxes levied and collected from all taxpayers, exclusive of poll taxes and inheritance taxes.

Of the 254 counties in Texas, 168 are producing either oil or gas or both, and leasing and exploration for new fields are being carried on in all of the remaining 86 counties.

## Texas Proposes Reports From Labor Organizations

Labor unions would be required to register with the secretary of state under an act which passed the lower house of the Texas legislature last week.

The bill provides that each union must file an annual report, giving its address, the names of its officers, and national and international affiliations. A financial statement is required showing the amount of money received and how it was dispersed. These reports are available to the attorney general, labor department, and grand juries.

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*Drill presses in the O-C-T plant were booked solid for months to come, yet here was an important job that required a drill press. An idle engine lathe was pressed in service with I-beams and improvised fixtures to raise the carriage sufficiently to clear the casting. Result: The ship launching went off on schedule.*

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### McElroy Proration Case Before Texas High Court

The Texas Supreme Court has set hearing March 24 of the E. C. Marrs case, involving Texas Railroad Commission's method of allocation for the McElroy field.

Marrs et al won judgment in the trial court but this was reversed by the Court of Appeals. Marrs, a royalty owner, and Gulf Oil Corporation, the principal operator of leases in the McElroy field, contended that the commission allowed production far below market demand, and that the order was inequitable because it did not take into account the vast acreage in the McElroy field compared to the acreage in the Church-Fields and McClintock pools which adjoins McElroy.

McElroy field had one well to about a quarter section, while the other fields were drilled on a 10-acre pattern.

### Michigan Wildcat Bonus Proposal Discarded

A legislator's proposal to encourage wildcat drilling in Michigan has been frowned down. The proposal was that drillers be given $1.00 per foot bonus for wildcat holes, and if the wildcat should be a producer the owner would pay $3.00 per foot into the revolving fund, which would be administered by the inevitable commission. Conservation authorities and other agencies concerned with oil development disapproved the proposal and it was killed by a legislative committee.


8 Good Tips

on how to make brake lining last longer...

1. TRUE UP SCORED RIMS
before applying brake lining.
2. BE SURE WATER IS ON WATER-COOLED RIMS
before starting to run in drill pipe.
3. HAVE BRAKES EQUALIZED AT ALL TIMES
4. WHEN RELINING BANDS
be sure that brake bands are not out of round or kinked.
5. STONE OR SMOOTH UP
badly checked rims before applying lining.
6. REVERSE BANDS,
if live and anchored ends are interchangeable, when anchored end is half worn. This increases life more than 40%.
7. USE LINING IN SEGMENTAL FORM
Such action simplifies application, allows for release of worn particles and permits greater heat dissipation.
8. DO NOT USE OIL, CLAY
or other foreign materials to control friction. This causes gummed brake surfaces, early replacement of lining.

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### Commission Asks PAW For More Texas Allowable

Texas Railroad Commission Chairman Beauford Jester has requested PAW to increase the Texas crude oil recommendation for April.

He asked PAW not to specify the fields from which the oil is to be produced, but to limit its recommendation to the grade and quantity of oil needed. He pointed out that last month PAW asked that the oil be assigned to the commission's District 3, and it was found that nine fields could not produce the additional oil assigned to them on a ratable basis.

Use of West Texas crude was also urged by Jester, and he told the Washington officials that Bureau of Mines reports had been supplied to the commission showing that oil from several West Texas fields could be used to make high-octane gasoline. He suggested that the refinery, transportation and storage divisions of PAW begin plans for using sour crude.

Jester said that the Bureau of Mines reports had been received on oil from Henderson, Goldsmith, Yates, Panhandle, McCamey, Slaughter, Wasson and Big Lake. Other oils were being tested, and the reports are expected soon, he said.

### Michigan Pipe Lines To Enlarge Capacity

Leonard Pipe Line Company will replace 7 miles of 4-inch with 6-inch pipe between Winterfield and Freeman, in Clare County, Michigan. The line actually will be a continuation of 12 miles of 6-inch just completed between Aetna and Winterfield. Contract for the extension was awarded to H. L. Gentry Engineering Company.

Sohio Pipe Line Company plans to loop 7 miles of 6-inch with a parallel 6-inch between the new Cedar field and the Evart station, and replace 15 miles of 6-inch between Evart and the Freeman station with 8-inch, to handle new developments in Cedar and Evart fields. The original 6-inch, built in 1941, is the only line outlet for Reed City.

### Lone Star Building Gasoline Pipe Line Between Plants

Lone Star Producing Company has started construction of a 25-mile 4½-inch natural gasoline line that will extend from its Brooks plant, near Breckenridge, Texas, to its Plant No. 101, 3 miles southwest of Ranger, where a fractionating unit is nearing completion for the processing of natural gasoline into isobutane, isopentane and other products used for blending with refinery stocks to make aviation gasoline and other war commodities. The Ranger plant is already connected by pipe line with the company's other natural gasoline plants in the district, thus assuring ample material for the fractionating plant.

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**R. P. MAY** has been appointed administrative assistant of petroleum facilities in the Defense Supplies Corporation, and will divide his time between Washington and field headquarters in Brazil. He formerly was with Standard Oil Company of Venezuela, and more recently was sales representative for W.K.M. Company, in Trinidad.

# Fuel Oils Seriously Short in Reflection Of Low Prices; Markets Generally Tight

Markets continue to show the effect of heavy drain on supplies on the Atlantic seaboard, where current receipts have been materially short of requirements for military, war industry, and normal purposes. The result has been a serious depletion of storage, which has been reduced below safe and efficient working-stock levels. The problem has been accentuated by protracted weather of subnormal temperatures.

This Eastern shortage has backed into the Middle West, with supplies of oils and also transportation being diverted toward providing relief to the East. Consequently, there are scarcities of nearly all products among both refiners and marketers in the Mid-West. An exception is gasoline, which is available in sufficient amounts; although the demand for even that product is growing stronger, in reflection of increasing agricultural activity or ordering of supplies for impending farm work. Especially scarce in the Middle West is range oil.

Some improvement in current supplies of residual fuel oil has been noticed, in consequence of OPA's price adjustment for blended residual fuel oils. The new price schedule is merely a belated adjustment allowing the refiner to get for a blend of residual and distillate the same price that he would get by selling the two products individually at the old ceiling prices. Heretofore, any such blending was penalized, the the blend had to be sold as residual fuel oil, despite containing the higher-priced distillate. This blended product is very much needed, and the price revision already has perceptibly stimulated supply. Refiners have quickly taken advantage of the new schedule in areas where stocks of distillate were larger than necessary, and they find ready markets for all the blended materials they can furnish.

It is widely contended that OPA still stands squarely in the way of essential production of fuel oils in general, because of having refused to advance fuel-oil prices in compensation for diverting crude normally made into gasoline into the production of the lower-priced products. Just as the adjustment on blended residual-distillate is stimulating production of the blend, it is asserted, so also an upward adjustment of fuel-oil prices in general would stimulate production of all those oils. However, OPA sticks to its arguments that profits of the industry are in line with the 1936-1939 average and contends therefore that the industry is able to absorb the cost of providing the necessary changed refinery yields. However, every company's experience is different, and for each one, averages mean very little; and the undebatable fact is that the nation is seriously short of both light and heavy fuel oils. In recognition of this disturbing fact, members of both houses of Congress are discussing legislation to require compensation for altered refinery yields.

In Western Pennsylvania there have been no important revisions of prices lately, and neutral oils are in somewhat better demand, following protracted weakness of the market. Bright stocks, cylinder stocks, and fuel oils continue in good demand.

Gulf Coast refiners still are experiencing inactive markets. But heating oils

## Crude Oil Production in the United States

(Estimates compiled by The Oil Weekly. All figures indicate daily averages, in barrels.)

| STATE OR DISTRICT | *State Allowable of Crude Production | PRODUCTION IN WEEK ENDED March 6 | March 13 |
|---|---|---|---|
| Arkansas | 72,337 | 75,250 | 72,250 |
| California | 780,200 | 760,600 | 776,150 |
| Long Beach | | 33,750 | 33,300 |
| Midway-Sunset | | 55,950 | 55,600 |
| Kettleman Hills | | 43,400 | 44,800 |
| Wilmington | | 95,800 | 94,000 |
| Rest of State | | 531,700 | 548,450 |
| Colorado | | 6,200 | 6,450 |
| Illinois | | 237,850 | 251,150 |
| Salem | | 33,100 | 32,800 |
| Louden | | 39,800 | 41,150 |
| Other New Pools | | 153,500 | 165,600 |
| Old Pools | | 11,450 | 11,600 |
| Indiana | | 14,250 | 16,300 |
| Kansas | 304,900 | 299,100 | 286,900 |
| Kentucky | | 12,900 | 12,700 |
| Louisiana | 327,648 | 340,150 | 340,100 |
| North | | 89,900 | 89,650 |
| South | | 250,250 | 250,450 |
| Michigan | 58,250 | 57,600 | 57,850 |
| Mississippi | | 54,950 | 54,700 |
| Missouri | | 95 | 100 |
| Montana | | 22,550 | 17,700 |
| Nebraska | | 2,450 | 2,350 |
| New Mexico | 100,000 | 96,700 | 92,450 |
| New York | | 15,850 | 13,100 |
| Ohio | | 11,450 | 11,250 |
| Oklahoma | 360,900 | 342,300 | 327,200 |
| Oklahoma City | | 65,150 | 46,250 |
| Seminole Area | | 76,800 | 77,600 |
| Rest of State | | 200,350 | 203,350 |
| Pennsylvania | | 49,900 | 43,300 |
| Tennessee | | 35 | 30 |
| Texas | 1,383,376 | 1,391,900 | 1,392,200 |
| Upper Gulf Coast | | 353,850 | 354,300 |
| East Texas Field | | 323,700 | 323,100 |
| Rest of Eastern Texas | | 100,150 | 100,050 |
| Lower Gulf Coast | | 104,850 | 104,500 |
| Southwest Texas | | 50,550 | 50,550 |
| South Central Texas | | 17,100 | 17,100 |
| West Texas | | 217,750 | 217,900 |
| North Texas | | 135,300 | 135,950 |
| Panhandle | | 88,650 | 88,750 |
| Utah | | 15 | 15 |
| West Virginia | | 10,300 | 8,100 |
| Wyoming | | 94,500 | 92,900 |
| Total 8 Prorated States | 3,387,511 | 3,363,600 | 3,345,100 |
| Total United States | | 3,896,895 | 3,875,245 |

* Details on state allowables in this issue of The Oil Weekly.

## Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

| ITEM | Crude Oil Prod. Barrels Daily | Week Ended | Runs to Stills Barrels Daily | Week Ended | Crude Stocks Barrels | Week Ended | Gasoline Stocks Barrels | Week Ended | Gas Oil & Distillate Stocks Barrles | Week Ended | Residual Fuel Oil Stocks Barrels | Week Ended |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Highs: | | | | | | | | | | | | |
| 1939 | 3,910 | 8- 5 | 3,650 | 10-21 | 278,607 | 5-26 | 87,769 | 4-22 | 39,562 | 10-28 | 116,237 | 8-26 |
| 1940 | 3,890 | 3-16 | 3,690 | 6-22 | 265,865 | 8-31 | 102,817 | 4-20 | 49,051 | 10-19 | 109,135 | 9-14 |
| 1941 | 4,337 | 11-22 | [1]4,120 | 10-18 | 266,187 | 3-29 | 99,727 | 3-29 | [1]54,983 | 11-15 | 102,448 | 1- 4 |
| 1942 | [1]4,337 | 2- 7 | 3,961 | 1- 3 | 263,208 | 3-28 | [1]107,229 | 3-14 | 49,861 | 11-14 | 95,857 | 1- 3 |
| 1943 | 3,887 | 3- 6 | 3,734 | 1- 2 | 235,217 | 2-27 | 93,157 | 2-27 | 42,913 | 1- 2 | 72,881 | 1- 2 |
| Lows: | | | | | | | | | | | | |
| 1939 | [3]1,601 | 8-26 | 3,125 | 2-18 | [2]229,127 | 10-12 | 71,152 | 10- 7 | 20,722 | 4-15 | 105,397 | 4- 8 |
| 1940 | 3,335 | 11-30 | 3,370 | 1- 6 | 237,339 | 1-27 | 79,847 | 11- 9 | 23,551 | 4- 6 | 102,344 | 2-10 |
| 1941 | 3,364 | 1-11 | 3,490 | 1-18 | 240,399 | 11-15 | 79,923 | 10- 4 | 28,381 | 4-12 | 90,914 | 7-12 |
| 1942 | 3,297 | 7- 4 | 3,393 | 5-23 | 231,896 | 12-12 | 75,934 | 12- 5 | 29,240 | 4-25 | 72,962 | 12-26 |
| 1943 | 3,821 | 1- 9 | 3,605 | 2-13 | 232,191 | 1- 9 | 82,420 | 1- 2 | 31,668 | 3- 6 | 68,782 | 3- 6 |

| Trends in Week Ended: | Crude Oil Production Daily | Crude Oil Runs to Stills Daily | Crude Oil Stocks Week End | Gasoline Production Weekly | Gasoline Stocks Week End | Gas Oil & Distillate Production Weekly | Gas Oil & Distillate Stocks Week End | Residual Fuel Production Weekly | Residual Fuel Stocks Week End |
|---|---|---|---|---|---|---|---|---|---|
| 1942: | | | | | | | | | |
| January 3 | 4,038 | 3,961 | 244,440 | 13,797 | 92,987 | 3,855 | 49,357 | 6,918 | 95,857 |
| January 31 | 3,871 | 3,848 | 250,740 | 13,292 | 97,810 | 3,817 | 40,674 | 6,640 | 91,189 |
| February 28 | 4,016 | 3,675 | 259,373 | 12,131 | 105,635 | ..... | 34,547 | ..... | 88,285 |
| March 28 | 3,820 | 3,667 | 263,208 | 11,663 | 105,624 | ..... | 31,756 | ..... | 83,045 |
| April 25 | 3,581 | 3,506 | 257,073 | 10,535 | 102,897 | ..... | 29,240 | ..... | 81,107 |
| May 30 | 3,877 | 3,522 | 255,023 | 10,478 | 95,355 | ..... | 31,384 | ..... | 79,628 |
| June 27 | 3,719 | 3,581 | 253,364 | 10,713 | 88,396 | ..... | 32,851 | ..... | 77,304 |
| July 25 | 3,691 | 3,658 | 249,262 | 10,864 | 82,281 | ..... | 35,966 | ..... | 77,816 |
| August 29 | 3,964 | 3,697 | 249,007 | 11,300 | 80,831 | ..... | 42,060 | ..... | 78,034 |
| September 26 | 3,909 | 3,802 | 242,785 | 10,954 | 80,550 | ..... | 45,945 | ..... | 78,943 |
| October 31 | 3,901 | 3,731 | 239,266 | 11,153 | 79,159 | ..... | 48,131 | ..... | 79,166 |
| November 28 | 3,878 | 3,736 | 234,850 | 11,269 | 78,854 | ..... | 49,739 | ..... | 77,796 |
| 1943: | | | | | | | | | |
| January 2 | 3,871 | 3,734 | 233,938 | 10,957 | 82,420 | 4,285 | 42,913 | 7,683 | 72,881 |
| January 30 | 3,826 | 3,698 | 233,863 | 10,339 | 88,830 | 3,888 | 37,057 | 7,452 | 70,763 |
| February 27 | 3,873 | 3,709 | 235,217 | 10,566 | 93,157 | 4,230 | 32,939 | 7,839 | 70,140 |
| **March 6, 1943** | **3,887** | **3,626** | ..... | **10,058** | **92,845** | **3,731** | **31,668** | **7,106** | **68,782** |
| March 7, 1942 | 3,934 | 3,520 | [4]259,373 | 11,404 | 108,997 | 3,681 | 32,742 | 6,411 | 86,669 |
| Change: | | | | | | | | | |
| In week | +14 | —83 | +655 | —508 | —312 | —499 | —1,271 | —733 | —1,358 |
| In year | —47 | +106 | —24,156 | —1,346 | —16,152 | +50 | —1,074 | +695 | —17,887 |
| In year | —1.1% | +3.0% | —9.3% | —11.8% | —14.8% | +1.3% | —3.2% | +10.8% | —20.6% |

[1] All time peak. [2] Lowest since April, 1922 [3] Lowest since October 1922, due to shutdown of six Mid-Continent States. [4] Stocks, February 28, 1942.

are in comparatively good demand, and the outlook is generally better, as evidenced by the fact that PAW has authorized increased refinery runs during March, in reflection of the improving transportation situation. All plants of the Gulf Coast have allocations above 75 percent of average crude input in the last 6 months of 1941, although gasoline yield still is restricted to 70 percent of yield in the same period. Meanwhile, Inland Texas refineries continue operating under the same instructions as in February.

Mid-Continent refiners continue to encounter very heavy demand for heating oils, while unable to fill demand for heavy fuel oils. They also are noting improved demand for gasoline and for lube stocks. The firmness of lubes may reflect large government purchases of solvent-refined grades and resultant drafts on the regularly refined stocks which serve civilian needs. Several Mid-Continent refiners reported frequent inquiries for both bright stocks and neutrals, although they further said that they had no available supplies to offer. Prices generally were unchanged, but some refiners have withdrawn quotations on brights and neutrals, with the result that prevailing prices are exceptionally firm.

## March Production to Be Under PAW Quotas

Actual production of crude oil and other petroleum liquids in March will be around 44,000 barrels a day short of the volume determined by the Petroleum Administration for War as desirable.

This is indicated by the accompanying tabulation of allowables prescribed for March in the 8 prorated states, considered in conjunction with recent trends of variance of actual production from scheduled allowables and in conjunction with current trends of producing ability in unprorated Illinois and Mississippi as well as remaining states.

Taking allowables at their face value, indicated underproduction for March is 27,614 barrels daily, but actual deficiency will be around 43,804 barrels daily, it appears, because of underproducing of allowables or PAW recommendations in California, Michigan, Texas, New Mexico, Oklahoma, Illinois, and some other states. These deficiencies will be only partially made up by overproduction in Mississippi and perhaps Kansas and a few other states.

## North Carterville Outlet

Hunt Oil Company has completed a 6-mile 4-inch oil line to serve its three producers in the North Carterville pool, Bossier Parish, Louisiana, to a tank-car rack on the Cotton Belt Railroad at Arkana.

## Draw Heavily on Stocks To Meet Requirements

Very unsatisfactory results in meeting current heavy demand for petroleum products were reflected in statistics of the industry covering the week ended March 6.

Crude runs to stills were substantially down from the previous week, and production was materially lower for each of the three products, gasoline, distillate fuel oil, and residual fuel oil.

In consequence, the industry drew on storage for approximately 3,000,000 barrels of the major products: 1,358,000 of residual fuel oil, 1,271,000 of distillate, and 312,000 of gasoline.

Crude runs to stills averaged 3,626,000 barrels daily in the week of March 6, down 83,000 barrels from the average of the previous week, although 106,000 barrels (3 percent) above the 3,520,000-barrel level of the corresponding week last year. Plants of the country, in the aggregate, operated at 75.4 percent of capacity. Runs were reduced for the week in all districts except the Middle West and the upper Mid-Continent. In the latter areas and the Appalachian district between 85 and 90 percent of capacity was in use. California daily average refinery runs were lowered 58,000 barrels to 665,000 barrels, representing 81 percent of capacity. Rocky Mountain plants averaged 86,000 barrels daily, 58 percent of capacity. The East Coast and

## Underproduction of Petroleum Indicated for March Under Scheduled Allowables

(Barrels daily of crude oil, condensate, natural gasoline, and other petroleum liquids)

| STATE | Recommended Total Petroleum Production in February (PAW Schedule) | State Allowable of Crude in February | Actual Production in 4 Weeks Ended February 27, 1943 | | | Difference of Actual Crude Production from Allowable in February | Excess or Deficiency of Actual Total Production in February | Recommended Total Petroleum Production in March (PAW Schedule) | [11]Actual Production in Prospect for March, as Scheduled *in* Allowables or Forecast by Trends in Unprorated States | | | Excess or Deficiency of Total Actual Production Indicated for March |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | [1]Crude Oil | [2]Natural Gasoline and Other Products | Total Petroleum | | | | Crude Oil | Natural Gasoline and Other Products | Total Petroleum | |
| **Prorated States:** | | | | | | | | | | | | |
| Arkansas | 78,700 | 72,671 | 75,700 | 2,725 | 78,425 | + 3,029 | — 275 | 78,700 | 72,237 | 2,850 | 75,087 | — 3,613 |
| California | 823,700 | 780,200 | 777,300 | 43,892 | 821,192 | — 2,900 | — 2,508 | 823,700 | 780,200 | 43,500 | 823,700 | [5] ..... |
| Kansas | 310,500 | 305,500 | 307,150 | 5,907 | 313,057 | + 1,650 | + 2,557 | 309,900 | 304,900 | 5,000 | 309,900 | [7] ..... |
| Louisiana | 349,800 | 328,357 | 337,450 | 21,442 | 358,892 | + 9,093 | + 9,092 | 349,800 | 327,648 | 29,000 | 356,648 | [8]+ 6,848 |
| Michigan | 63,700 | 57,800 | 59,000 | 84 | 59,084 | + 1,200 | — 4,616 | 63,700 | 58,250 | 100 | 58,350 | — 5,350 |
| New Mexico | 105,800 | 100,000 | 97,000 | 5,642 | 102,642 | — 3,000 | — 3,158 | 105,800 | 100,000 | 5,800 | 105,800 | [9] ..... |
| Oklahoma | 395,300 | 365,300 | 350,050 | 29,567 | 379,617 | —15,250 | —15,683 | 390,700 | 360,900 | 30,000 | 390,900 | [6]+ 200 |
| Texas | 1,452,000 | 1,336,161 | 1,343,200 | 107,425 | 1,450,625 | + 7,039 | — 1,375 | 1,502,000 | 1,383,376 | 118,425 | 1,501,801 | [4]— 199 |
| Total 8 Prorated States | 3,579,500 | 3,345,989 | 3,346,850 | 216,684 | 3,563,534 | + 861 | —15,966 | 3,624,300 | 3,387,511 | 234,675 | 3,622,186 | — 2,114 |
| **Unprorated Flush States:** | | | | | | | | | | | | |
| Illinois | 272,200 | ..... | 238,750 | 10,237 | 248,987 | ..... | —23,213 | 262,300 | [3]238,000 | [3]10,000 | 248,000 | —14,300 |
| Mississippi | 50,000 | ..... | 54,900 | ..... | 54,900 | ..... | + 4,900 | 50,000 | [3]53,000 | ..... | 53,000 | + 3,000 |
| Total 10 Flush Production States | 3,901,700 | ..... | 3,640,500 | 226,921 | 3,867,421 | ..... | —34,279 | 3,936,600 | 3,678,511 | 244,675 | 3,923,186 | —13,414 |
| Other States | 260,600 | ..... | 227,400 | 15,530 | 242,930 | ..... | —17,670 | 257,200 | [3]228,000 | [3]15,000 | [3]243,000 | —14,200 |
| Total United States | 4,162,300 | ..... | 3,867,900 | 242,451 | 4,110,351 | ..... | —51,949 | 4,193,800 | 3,906,511 | 259,675 | 4,166,186 | [10]—27,614 |

[1]Data by American Petroleum Institute.

[2]Approximate; being same as output reported for December by Bureau of Mines.

[3]Estimate based on recent trends of production.

[4]Actual underproduction in Texas will be about 2089 barrels more than this indicated deficiency, thereby amounting to about 2288 daily, in event of repetition of experience in February, when there was an indicated excess of 714 barrels daily but actual deficiency of about 1375 barrels.

[5]Although allowable conforms with PAW schedule, California's actual production will be about 2508 barrels under allowable if February experience is repeated.

[6]Although March allowables conform with recommended production, Oklahoma's actual output will be around 15,683 barrels under allowable if February experience is repeated. Crude allowable for March is 4400 barrels lower than that for February.

[7]While March allowables conform with recommended production, Kansas' actual output will be around 2557 barrels above allowable if February experience is repeated. March allowable is 600 barrels under that of February.

[8]Actual overproduction of crude in Louisiana, above that contemplated under PAW recommendations, will be about 6383 barrels daily, or 465 under this indicated excess, if there is a repetition of experience in February, when indicated excess was 9557 barrels but actual excess about 9092.

[9]Although allowable conforms with PAW schedule, New Mexico's actual production will be about 3158 barrels under allowable if February experience is repeated.

[10]Actual underproduction in United States may be around 43,804 barrels daily, considering circumstances given in footnotes 4, 5, 6, 7, 8, 9.

[11]Details on state allowables for February include the following:

**Arkansas:** Crude oil allowable figure includes both oil and condensate; natural gasoline output estimated at 2850 barrels daily.

**California:** Figures for March are allowables as scheduled by Conservation Committee of California Oil Producers.

**Kansas:** Allowables subject to final approval by Kansas Corporation Commission.

**Louisiana:** Figures are not allowables but actual production contemplated by Conservation Department, allowing for estimated output of 29,000 barrels liquid hydrocarbons other than crude and estimated crude oil underproduction of 20,500 barrels under scheduled allowables aggregating 348,148 barrels daily.

**Michigan:** These figures are March production expected under regulations which do not fix definite state allowable.

**New Mexico:** Allowable of all petroleum, 105,800 barrels daily, of which it is estimated about 5800 daily will be accounted for by natural gasoline, butane, and propane.

**Oklahoma:** Figures are allowables, but state underproduced crude allowable about 15,250 barrels daily in February and similar result may be expected for March, with allowable 4400 barrels lower than that for February.

**Texas:** Texas Railroad Commission fixed crude allowable at 1,471,207 barrels daily; however, it estimated underproduction of 5.97 percent, or 87,831 daily, or a net allowable of 1,383,376 barrels. This allowable does not include an estimated 118,425 barrels of unprorated distillate and other fluids which are produced daily, and which would bring the total net production to about 1,501,801 barrels daily.

Southwestern refining districts combined averaged 1,638,000 barrels daily, or 67 percent of capacity.

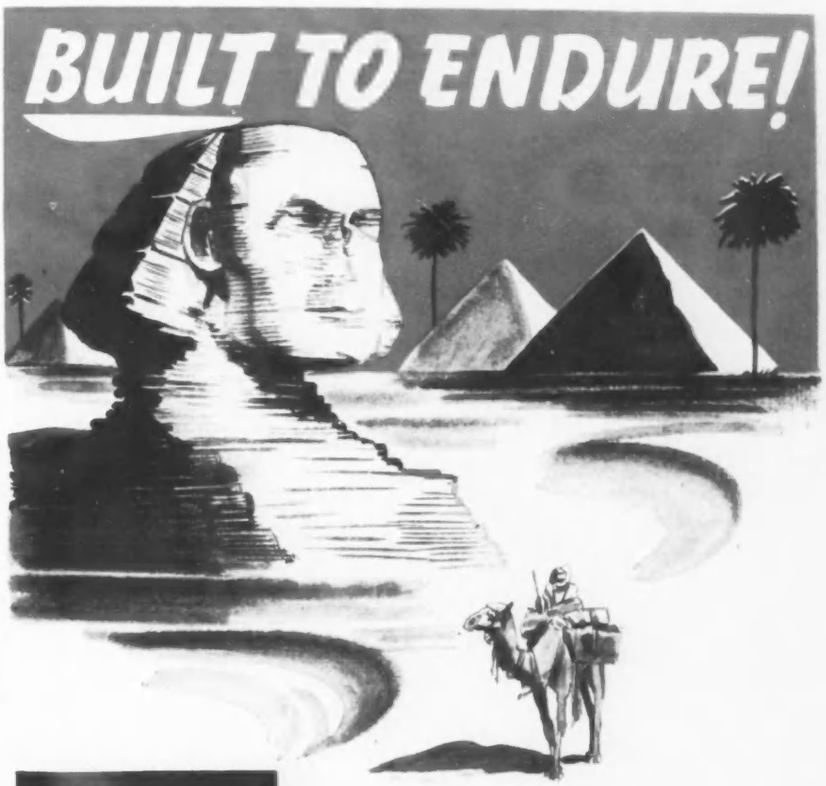
Residual fuel oil shortage continues a particularly serious problem. Production of that product was 733,000 barrels lower in the 7 days ended March 6 than in the preceding 7 days, but that decrease in production only partially accounted for the withdrawal of 1,358,000 barrels from storage in the meantime, the previous week's output itself having been inadequate. Stocks in the United States now are about 18,000,000 barrels lower than a year ago. For the 1,358,000-barrel withdrawal from storage in the week of March 6 California was largely responsible, having shown a 949,000-barrel decrease, although production was only 373,000 barrels off. The combined East Coast-Southwest districts took out 412,000 barrels while production was down only 188,000 barrels. All other districts also took heavy fuels from storage except the Middle West and upper Mid-Continent, which added to stocks despite lower production.

Stocks of gas oil and distillate were drawn upon heavily in reflection of continued cold weather, having come down 1,271,000 barrels, with the decrease partially due to lower production, which was off 499,000 barrels as compared with that in the previous week. All districts showed withdrawals from storage, and in all cases the withdrawals were at least partially explained by reduced production. However, the outstanding withdrawal was that of 884,000 barrels in the East Coast-Southwestern districts, explained by lower production only in the amount of 206,000 barrels, the amount of reduction as compared with plant output in the previous week. Stocks of the light fuel oils now are, however, only about 1,000,000 barrels lower than those held a year ago.

In line with prospective comparatively light demand for gasoline, there was a reduction of 312,000 barrels in the stocks of that product in the week ended March 6, made possible through a reduction of 508,000 barrels in the amount produced as compared with output in the preceding 7 days. Gasoline stocks of 92,845,000 barrels on hand March 6 were 16,152,000 barrels (14.8 percent) under those of 108,997,000 barrels on hand March 7, 1942. The withdrawal of gasoline from storage in the week of March 6 was largely concentrated, however, in the East Coast district, and reflected the transportation difficulties there and the necessity of using those available primarily for handling fuel oils. In the East Coast - Southwest districts combined, there was a draft of 754,000 barrels on gasoline stocks, while production was off only 301,000 barrels as compared with output the preceding week. The Appalachian region also took gasoline from storage. All other districts added to stocks, despite curtailment of production in each except the upper Mid-Continent.

### Gulf Establishes Research Assistantship at MIT

A research assistantship in petroleum physics has been established by Gulf Oil Corporation at the Massachusetts Institute of Technology. The recipient must qualify for a tuition scholarship and be a candidate for an advanced degree in the Department of Physics. The stipend will be $1100 per school year, subject to renewal at the end of nine months under an accelerated program.

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# Jap Claims of Indies Oil Rehabilitation Optimistic, But They Have Some Supplies

Despite "tall tales" of the Japanese as to how they have made important use of the oil properties they invaded in the East Indies and Burma, Dutch, British, and American men familiar with the oil industry of those regions hold to the conviction that the practical oil gains of the Japs have been extremely limited.

It was several months after Japanese occupation that the invaders claimed to be putting back on production the insignificant and easily accessible Wonokromo oil field near Soerabaja, Java, and many months longer would be required to develop production in the other areas, where carefully planned and effectively executed earth-scorching was carried out. Optimistic stories about the reopening of oil wells have been very vague, and it is indicated that actual restorations of production have been very limited, including some conceded success in southern Sumatra.

While the difficulties of the Japanese in securing oil production are great, those in connection with refining are even greater. The Japs made claims of having "repaired" oil refineries even before they could have had time to clear up the ruins that were left at the refinery sites. But actual resetting up of refining capacity in the Far East will be a matter of years, just as it required years to build the plants originally.

Several great difficulties confront the Japanese in their efforts to restore industrial activity in the East Indies, it is pointed out, including the language differences, aversion of the Indonesians to Japanese "culture," dislocation of the Indies economic and social life, and chaotic transport conditions.

Despite what has been said above, however, it must be admitted that Japan gained a tremendous advantage in getting possession of the Dutch East Indies and Burma oil fields and refineries, even though the properties were methodically destroyed or damaged by their owners. V. R. Garfias, R. V. Whetsel, and J. W. Ristori, of Cities Service Oil Company, in their paper presented in New York in February, 1942, before the American Institute of Mining and Metallurgical Engineers, estimated that within Japan the output of oil for 1941 was 8,800,000 barrels, including 5,500,000 of substitutes, and that synthetic production probably increased in 1942 and raised total interior production to 10,000,000 barrels, while the Japanese gained possession of oil fields having normal peacetime output of 78,000,000 barrels annually. Production of those areas for 1942 was estimated at 23,000,000 barrels, indicating that Japan got for the year at least 33,000,000 barrels, or 8,000,000 more than peak peacetime consumption. Holding of the Dutch East Indies and Burma oil fields would leave Japan no great difficulty on sources of supply, in the opinion of the authors of the paper, and the greatest problem of the Japanese would be ocean transportation and to some extent refining equipment.

## New Canadian Highway to Lead to Mackenzie River

Approved by Office of Censorship, Washington

The United States Army is building at least one highway and an oil pipe line in northern Canada, it was recently revealed in debate in the Canadian House of Commons. Both projects are expected to be finished this year.

The highway is being built to expedite oil development in the territory of the Mackenzie River, especially around Norman, 125 miles south of the Arctic Circle. It is being built from Peace River in northern Alberta, to Providence on Great Slave Lake in the Northwest Territories. The route of the road was not disclosed in detail, nor its width or type of construction. It will follow largely the route of a winter tractor road which the Alberta provincial government started work on in 1940, and will pass north of the provincial boundary to the Northwest Territories to the fur post settlement of Providence, at the west end of Great Slave Lake. The road connects at the settlement with the Mackenzie River waterway, flowing northward to the Arctic Ocean.

At Norman the first oil wells were drilled in 1921 by crews brought in by the first airplane in the northland. Now a pipe line is being constructed westward from Norman to Whitehorse, Yukon, where the pipe line will connect with the Alcan Highway to Alaska. The pipe line is to be approximately 600 miles long, and will pass through mountainous uninhabited country. It will carry fuel oil and aviation gasoline from the refinery which was established at Norman in 1940, and which has since been expanded, according to Ottawa announcements.

Other roads as feeders from various parts of northern Canada to the Alcan Highway to Alaska have also been reported as being under construction, but no details have been revealed. Nearly all are being rushed to completion by the United States Army and will revert to Canada after the war under agreement.

The oil wells at Norman, for whose output there is now adequate demand, were capped from the time of their first development till 1930, when mining developments in the Great Bear Lake area, east of Norman, brought a demand for diesel oil and aviation gasoline. A small refinery was established, and shortly before the war broke out a small pipe line was built on the Bear River, connecting the Mackenzie River with Great Bear Lake, in order to overcome dangerous rapids in the Bear River. The refinery was enlarged shortly after Canada went to war, being transported and assembled in the short summer season.

Since the start of the war the Canadian government has made oil prospecting in the Norman region an important part of its wartime mining program. The new road from Peace River and the end of steel, now being built, will help get supplies faster into the region, as heretofore there has been much transshipment from the end of the railway at Waterways, Alberta, via the Athabasca River, Lake Athabasca and the Slave River to Great Slave Lake. When the new road is completed, material will travel by rail or road from Edmonton to Peace River, and by road via Fort Vermilion to Providence, a distance of about 650 miles. Cost of the new road was reported in Parliament at about $30,000,000.

## New Field Indicated in Alberta, Canada

Confirmation of an important oil showing in the Vauxhall well being drilled by Imperial Oil, Ltd., in Canada, was made by S. F. Heard, assistant production manager. About 1400 feet of oil is standing in the hole, but until the well could be shot and acidized, no estimate could be given on its possibilities.

The well is located near the town of Vauxhall, about 20 miles northeast of Taber, province of Alberta, Canada.

## Wildcat Work Continues Active in Colombia

Exploratory work has continued active in Colombia, despite the sharp curtailment of production. The active wildcatting has reflected that the production decline resulted not only from loss of markets, but also from the drilling up of established producing areas at Infantas and La Cira of the De Mares Concession and Petrolea of the Barco Concession.

Considerable encouragement was given through the wildcats drilled during 1942, and there is continued geophysical work in progress as well as further actual drilling of wildcats, although wildcatting and field development are being slowed down by the shortage of equipment.

Prospecting work has included wildcatting in the Magdalena River valley and additional wildcatting on the Barco property, and findings in both those regions have been encouraging.

It is indicated that Colombia may not equal its 1940 and 1941 production records until after the war, when normal markets and normal material supplies are restored.

Production of oil in Colombia in 1942 was only about 10,600,000 barrels, compared with 24,400,000 in 1941 and the all-time record 25,593,000 barrels in 1940.

Under United States oil-import quotas, Colombia was granted about 2,250,000 barrels for 1942, to be allowed to enter at the reduced tariff rates; although the amount actually shipped is not revealed because of censorship.

## Argentina Will Allow More Pleasure Driving

Although consumption of petroleum has been drastically curtailed in Argentina, the government approved allotment of extra gasoline for current summer pleasure driving in the first quarter of 1943. The extra quotas are intended to promote public health by making vacations possible and to prevent hotels and resorts from suffering severe financial loss. However, travel over long distances by automobile is not made possible, and such trips must be made by train, although gasoline is supplied for automotive transport at the destinations.

Argentina showed some increase in crude production in 1942, output having been approximately 22,000,000 barrels, compared with 21,763,000 in 1941. the country heretofore has produced only about two thirds of its requirements, consumption in 1941 having been 33,000,000 barrels, which ranked Argentina as the fourth largest consuming country in the world.

For 1943 there is not expected any further increase in domestic production, in view of the shortage of materials.

The Argentine congress in its session in late 1942 considered a proposed law calling for construction of alcohol distilleries for manufacture of anhydrous alcohol from corn, wheat, and barley, to be mixed with gasoline. But the bill was not acted upon.

While Argentina is experiencing a shortage of petroleum, the country is having even greater difficulty in obtaining enough coal, as nearly all coal used must be imported. Consequently, despite the oil scarcity, Argentina has been considering exchange of some Argentine gasoline for Chilean coal. Chile has increased coal production until there is some available to export, whereas Chile does not have any petroleum production.

## Small Recovery Reported In New Zealand Drilling

Extensive geological and geophysical work, supplemented by some deep drilling, has failed so far to establish commercial production in New Zealand. British trade reports have indicated that during 1941, Meuroa Oilfields, Ltd., of Taranaki, produced 93,915 gallons of oil from three wells. The reports also indicated that three large companies were carrying on intensive search, using geological, paleontological, and geophysical methods; and that deep tests on three wildcat locations had failed to discover oil.

## Large Bitumen Deposits Reported in Turkey

Several large bituminous deposits have been found in Turkey, in response to exploration for petroleum. Among them are deposits at Izmit estimated at 30,000,000 tons, those at Manisa estimated at 15,000,000 tons, and in the district of Bolu 7,000,000 tons. The bitumen content of the deposits is reported to run as high as 11 percent, and it is believed that 1,800,000 tons of bitumen could be obtained near Ankara and about 650,000 tons at Bolu. When treated, the Izmit bitumen yielded 10 percent gasoline, 14 percent kerosine, and 12 percent paraffin wax.

## Tax Write-Offs to Aid Canadian Oil Search

To encourage the search for new sources of oil in Canada, Finance Minister James L. Ilsley announced at Ottawa on March 2 that preproduction expenses of any oil well may be written off against any income from it. The announcement came in connection with the 1943-44 budget, and will allow the writing-off of preproduction expenses to the extent of 40 percent the first year, 30 percent the second, 20 percent in the third and the remaining 10 percent in the fourth year.

The finance minister also announced an increase from 15 to 25 percent in the depreciation rate to be applied to all depreciable assets used in oil production, including drilling equipment.

Legislation is to be passed providing for a special wartime depletion allowance of 33⅓ instead of the present 20 percent in respect to royalty payments received by investors from wells spudded during the 1943-45 period.

It was proposed by the finance minister that companies formed for exploration and drilling for oil would be allowed to accumulate exploration costs incurred in the period January 1, 1943, to March 31, 1945, and to write off such expenses against the income produced from any well they might find. All exploration costs, including geological and geophysical expenses incurred in the same period, all off-property drilling expenses of dry wells spudded during this period are to be allowed as an expense or deduction against current income of companies with the tax saving limited to 40 percent of the expenditures involved.


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# U. S. Field Operations

## Illinois Basin

### Franklin County Discovery Swabs 300 Barrels 18 Hours

Kingwood Oil Company's Ernst 1, NW SE NE 15-6n-5e, Effingham County, a wildcat 6 miles northeast of Clay County's Iola field, has set casing at 2496 feet to test McClosky lime at 2401-11 feet. St. Genevieve was topped at 2461 feet, Rosiclare 2485 feet, Fredonia 2495 feet and McClosky at 2499 feet, total depth 2511 feet.

**Franklin County:** Seaboard Oil Company's U. S. Coal and Coke 8, NE NE 26-6s-4e, a pool-opening well 1½ miles south of the Akin field, swabbed 300 barrels of oil in 18 hours and is being put on pump. The productive formation is Aux Vases sand at 3122-28 feet.

E. S. Adkins' Brown 1, SE NE NW 25-7s-2e, a wildcat at the edge of West Frankfort, had not yet perforated casing. Lower O'Hara saturation at 2768-75 feet is to be tested.

**Jefferson County:** Byers & Ellison's Jeff 2, NE SE NE 31-3s-2e, 1 mile northeast of Waltonville, has been plugged and abandoned at 2769 feet. Fredonia lime was topped at 2680 feet. The well found a trace of oil in Benoist sand.

**Wayne County:** Olson Oil Company's Shaffer 1, W½ SW SW 14-1s-6e, first offset to Shell Oil Company's Montgomery 1, a discovery completed several months ago, swabbed 318 barrels of oil and 60 barrels of water natural in 21 hours from McClosky lime at 3160 feet. Total depth is 3198 feet. The discovery was completed in Aux Vases sand as a light producer.

**Perry County:** The Texas Company's Matlavish 1, NW SW NE 36-4s-2w, deepest test yet drilled in the county, has lost circulation at 3731 feet. It is slated to test Trenton lime.

The State Geological Survey reported last week that there were 104 producing wells completed in Illinois during February.

Production for the month was estimated at 6,709,000 barrels as compared with 7,451,000 in January.

Two new fields were opened, the Bennington of Edwards County and the North Calvin in White County. Extensions were completed to the Barnhill field of Wayne County, the Iola pool of Clay County and the Schnell field.

## Kansas

### Pratt County Oil Strike Significant to Large Area

The most significant strike in Kansas this year is Union Oil Company's Pratt 1, NEc SW 23-8-26w, Sheridan County, which is continuing testing after being assigned a temporary potential of 20 barrels daily by the Kansas Corporation Commission. Kansas City-Lansing (Pennsylvanian) lime was topped at 3670 feet and drilled through to 3903 feet in dry Arbuckle lime. Perforations were made in Lansing saturation between 3808-17 feet, hole filled 2000 feet with high-gravity oil, and swabbing indicated a 200-barrel well. Tanks are being erected for further testing. This well, the first for the company in this state, is located on a surface high. Commercial success would add much to prospects in Northwest Kansas and enhance the value of surface indications in this area.

**Decatur County:** Also in Northwest Kansas and a short distance from the Nebraska line, Helmerich & Payne, Inc.'s Savage 1, NE NE NE 3-1s-27w, is plugging back from dry Arbuckle lime to test shows encountered in drilling through Kansas City-Lansing lime, topped at 3311 feet. Cores recovered 20 feet of saturation. Hole was carried to 3685 feet in granite.

Stanolind Oil & Gas Company's McCue 1, NWc SE 29-1-26w, a stratigraphic test of a surface structure, has abandoned after finding insufficient saturation in Kansas City-Lansing lime. Test made some oil, mud and water with oil swiftly declining.

**Ellis County:** Mid-Continent Petroleum Corporation's Fisher 1, NEc 8-11-20w, northwest of Solomon pool but too far from the field to be considered an extension, is deepening into saturation in Arbuckle lime topped at 3665 and drilled to 3685 feet.

**Stafford County:** Cities Service Oil Company's Grunder 1, SW NE NE 11-25-15w, northwest of Jordan field, swabbed 25 barrels of oil and 6 water in 2 hours from Kansas City-Lansing lime at 3950-3965 feet after 6000 gallons of acid. Hole was drilled to dry Arbuckle at 4455 to 4499 feet. Viola lime was tested at 4311-4344 feet.

## Oklahoma

### Cement Production Extends Southwest in New Zone

Extension of Cement area in a new zone has been proven on initial test at Ray Stephens, Inc.'s Piersen 1, SE SW SE 35-6n-10w, Caddo County. After drilling to 5755 feet and running casing to bottom, initial test flowed at rates of 65 and 85 barrels per hour. Additional testing is under way.

**Oklahoma County:** Ace Gutowsky's Wagner 1, NW NW SW 32-14-4w, 3 miles west of Edmond field, topped Hunton lime at 6877 feet and found streaks of saturation at 6911 and 6960 feet. Drilling is continuing below 7015 feet with Wilcox sand or 7500 feet as contact. Shows encountered in Hunton lime are considered sufficient for testing.

**Osage County:** East Watchorn field of Pawnee County has been extended across Arkansas River into Osage County at Continental Oil Company's Simpkins 1, CSW NW 24-23-3e, which flowed 539 barrels in 24 hours from Wilcox sand at 3811 to 3833 feet. Gas-oil ratio was low. Top of the sand was only 4 feet lower than well along the previous west edge.

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**C. A. LUPTON,** Fort Worth, has organized L. & W. Production Company to develop leases in North Texas. R. R. Wortham and V. J. Earnheart are associated.

## West Texas

### Crockett County Wildcat Showing Oil in Crinoidal

John I. and P. D. Moore's J. S. Todd-Amerada 1, C SW SW EL Ry 16, Block YZ, 5 miles west of West Todd one-well Crinoidal pool, in Crockett County, was heralded as a probable new-pool opener in recovering 10 feet of live green oil and 400 feet of oil- and gas-cut rotary mud on 20-minute drill-stem test at 6795-6876 feet in Crinoidal, topped at 6790 feet, elevation 2550 feet. Porosity was logged in Crinoidal at 6800-65 feet with oil saturation at intervals. Top of Crinoidal is 234 feet low when correlated with West Todd pool well. Tester will be used again at same level and for longer period. Moore Bros. contracted to drill to Ellenburger, or 7500 feet in obtaining support for the deep test, and two nearby regular Permian prospects. Moore Bros. et al's Shannon 1-12, 3⅓ miles northwest of Todd-Amerada 1, previously indicated an oil discovery in regular Permian and was swabbing at rate of 25 barrels oil and some water daily after nitro shot at 2377-98 feet, having plugged back from 2567 feet. Shannon-Amerada 1-21, 2 miles north of the Crinoidal test, failed to indicate production in drilling to sulphur water at 2543 feet, and was awaiting orders. Moore Bros. are obligated to start an Ordovician test on the latter lease prior to July, 1944, or deep rights revert to Amerada Petroleum Corporation.

**Crane County:** Gulf Oil Corporation's Estes 1, first Ordovician test on deep-seated structure situated immediately west of Sand Hills, failed to encounter additional oil pay or water in deepening from 7615 to 7690 feet. Top of Ellenburger was placed at 7590 feet, elevation 2529 feet. Acid treatment at 7615 feet resulted in a nominal show of gas and scum of oil. It will be carried to water in Ellenburger.

**Winkler County:** Amon G. Carter's Walton-Pure 2-C, Keystone field, was drilling extremely hard Basal Simpson sand at 9010 feet with top of Ellenburger due within the next 100 feet. This sand was entered near 8980-foot level, and is believed to be equivalent of the Waddell zone. Magnolia Petroleum Company's Walton-State 20, 3½ miles west, was drilling lime and shale at 9790 feet in Tulip Creek, topped at 9720 feet, with Ellenburger due near 10,350-foot level. The latter topped Montoya and Simpson at 9105 feet and 9460 feet, while the Keystone prospect entered these zones at 7775 feet and 8185 feet. Shell Oil Company's Blue 1, near the east edge of the county, was awaiting orders at 9437 feet in Montoya, topped at 9245 feet with elevation of 3098 feet. Deepening of Blue 1 to Ellenburger rests on the outcome of the county's other two deep tests.

**Clear Fork:** Amerada Petroleum Corporation has scheduled a Clear Fork test for its Robertson 480-acre lease on the east flank of the Seminole field, which is virtually drilled up and defined for regular Permian production. Seminole is rated as an outstanding prospect for Clear Fork production, which has been

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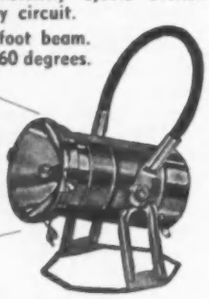
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established in two other Gaines County areas. In Yoakum County, Barnsdall Oil Company's Heath 1, projected 7500-foot wildcat, was drilling at 7115 feet in Clear Fork, topped at 6285 feet, with elevation of 3649 feet, and Humble Oil & Refining Company's Tannehill 1, 3 miles southwest of Wasson field and a 7500-foot test, was running 9⅝-inch pipe at 3124 ft.

**Reagan County:** Amerada Petroleum Corporation authorized the drilling of University 1-R-Q and 1-R-S, each on 160-acre leases within the Barnhart field that are due to expire in June, and the company's University 1-R-N, northwest outpost, was drilling lime at 9175 feet, with base of black shale at 9100 feet, barely within the contour for production from Ellenburger.

## North Texas

### *Walnut Bend Multi-Pay Area May Be Sizeable One*

Sinclair Prairie Oil Company's Cox 9-B, ¼ mile south by west of Winger sand discovery on east flank of Walnut Bend field, Cooke County, flowed 221.4 barrels of 33.5-gravity oil natural on 3-hour open-tubing gauge from perforations at 5436-49 and 5474-5509 feet in Winger sand, topped at 5477 feet. Four productive sands in the upper section of Strawn remain cased off. Sun Oil Company's Bacon 1, nearby test, indicated commercial production when tester used in sand at 4825-45, 4862-85, and 5015-40 feet, and was coring at 5070 feet with pays due at 5200 and 5400 feet. All wells in the field proper are on pump. The appearance of natural flowing production, plus multi-pay zones, makes this the most attractive spot in the district.

**Trading:** Competition for Mid-Continent-grade oil has attained sizeable proportions in recent weeks. Prospective buyers are seeking immediate supplies of this type of oil for their own refineries, or to use it in affecting desirable crude exchanges. Gulf Oil Corporation and Humble Oil & Refining Company have lately joined the list of soliciting companies, while the former has contracted for the purchase of two sizeable properties to obtain needed oil for Gulf Refining Company's Fort Worth refinery. Phillips Petroleum Company is negotiating for a substantial property in K-M-A field, while Shell Oil Company is seeking to acquire stock control of one of the largest independents in the district.

**Archer County:** Tom Medders et al's Berger 1, inside location for Vogtsberger pool, set pipe on top of broken saturation in Strawn at 4750-95 feet, and will install spudder to test. Medders et al's Fuller 1, miles southwest of this pool and separated by a deep failure, was circulating for samples after drilling sand at 4395-4408 feet, having topped K-M-A lime between 4024-37 feet. Moran Bros. et al's Jentsch 1, ⅝ mile northwest of Browning-Ellenburger discovery, was setting up machine to drill plugs and test Ellenburger saturation at 5204-09 feet. Phillips Petroleum Company attained protection between this area and the Asylum pool, Wichita County, through payment of $300 per acre, half cash and balance from production for northwest 200 acres in M. Doyle Survey A-120, and $200 per acre, half cash for an 80-acre lease in SW Green Reynolds Survey A-363.

## East Texas

### *Wood County Wildcat Proves Favorable Structure*

Bobby Manziel et al's Bailey-Shell 1, Samuel Burch Survey, and 5 miles southeast of Coke field, is the outstanding prospect for Wood County through having passed up nominal saturation in sub-Clarksville sand, topped at 4080 feet, and was drilling 4695 feet. No water was carried by the sand. Austin chalk was logged at 3920-40[illegible] feet, elevation 464 feet.

**Quitman Field:** Amerada Petroleum Corporation's Blalock 1, ¼-mile west of production, was drilling at 5596 feet in Georgetown topped at 5040 feet, eleva-

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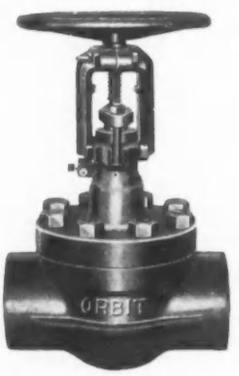

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tion 449 feet. Roger Lacy et al's Stone & Johnson 1, northeast outpost, was drilling below surface pipe. Delta and Shell's Goldsmith-Blalock 1, west offset to the discovery, flowed 184 barrels of 42.7-gravity oil on 6-hour test through ¼-inch from Paluxy perforations at 6306-75 feet.

Shell Oil Company's Goldsmith 2, south offset to this producer, showed for a small flow of 38.5-gravity oil through tester from perforations at 6255-84 feet, and is testing after additional perforations at 6208-55 feet.

**Henderson County:** Stanolind Oil & Gas Company's Tri-Cities 1-B, 1⅜ miles northeast of Tri-Cities pool discovery, logged nominal porosity and oil shows in coring Rodessa porous zone at 7680 to 7785 feet. Massive anhydrite was logged at 7510-7655 feet, elevation 436 feet, 15 feet low to the discovery, Stanolind Oil & Gas Company's Tri-Cities 1-D, southeast outpost, drilling at 6590 feet, having entered Paluxy at 6035 feet, elevation 375 feet, for favorable structural position.

**Deep Prospects:** C. L. Wickliffe et al's Hackett-Pure 1, scheduled 9700-foot test for the Sand Flats area, Smith County, was drilling at 4960 feet in Woodbine, topped at 4932 feet, estimated 20 feet high to Amerada Petroleum Corporation's Christian 1, a failure. In Franklin County, Tide Water Associated Oil Company and Seaboard Oil Company's Bacon 1, John Maximillian Survey, entered massive anhydrite at 7145 feet, elevation 435 feet, and was drilling shale and anhydrite at 7790 feet. Amerada Petroleum Corporation's Turner 1, Lower Trinity test for the east side of the Coke field, Wood County, was drilling shale at 4310 feet, having indicated water in sub-Clarksville.

**Houston County:** Cherry and Kidd, Evansville, Indiana, operators, contracted to drill a Woodbine test in the east portion of the Moore 959-acre lease, John Gossett Survey, A-429, 6 miles west of Crockett. It will be on acreage assigned by Gulf Oil Corporation, while The Texas Company also contributed towards the test.

## Modification of University Lands Leases Not Allowed

Holders of oil and gas leases on Texas University lands cannot have their contracts altered by agreement with the University according to a ruling by Attorney General Gerald Mann last week. The ruling applies to provisions in these contracts requiring development of the properties.

Under its provisions, holders of leases must either develop the tracts fully or face forfeiture of their leases by the State Land Commissioner, Mann said. The ruling applies to approximately 110,000 acres of University land in West Texas.

## Texas Orders More High Gas Ratio Wells Closed

Orders providing for the closing in of high gas-oil ratio wells in four Texas oil fields were issued by the Texas Railroad Commission last week. Under this program, wells with high ratios can be closed in by the operators and their allowables produced by other wells on the same lease which have relatively lower ratios.

## Hastings Operators Contend Field Could Produce More

Operators in the Hastings field, Brazoria County, presented information to the Texas Railroad Commission to demonstrate ability of the field to produce more than the allowable assigned in recent months.

During March, the field has an allowable of 42,300 barrels daily, and at the hearing testimony was presented to show that the field could produce 60,000 barrels or more without physical waste.

There are 689 wells in the field, of which Stanolind Oil & Gas Company owns 494, according to testimony offered by C. M. Whitmore, petroleum engineer for that company. He reported minor decline in pressure despite the fact that the field has produced more than 37,000,000 barrels. High permeability and porosity of 32 percent was reported.

**J. A. McCARTY,** Wichita Falls operator, has been re-elected president of the North Texas Oil & Gas Association. John W. Thomas and Fred Sehmann were also reinstated as vice president and executive vice president, respectively. Directors announced that annual meeting of membership will not be held this year.

**JOEL R. SIMS,** production department employe of Pure Oil Company at Van, Texas, has been assigned to scouting duty in West Texas with headquarters at Midland.

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## Southwest Texas

### Seaboard Completes New Discovery in Karnes Area

The Wilcox trend continues to dominate the development and drilling picture in the Lower Coastal territory. Further interest in the trend was stimulated with completion of a Wilcox discovery in Karnes County. It is the Karnes-Bee-DeWitt-Bee County area that is receiving more attention of producers who are redrilling old prospects—some of which are producing or have produced from the shallower sands.

An indication of the growing importance of Wilcox development is seen with operators staking three tests in the Oakville area, Live Oak County, which is on strike with previous discoveries in the area. An unusual feature of the latest strike in Karnes County is that it is further updip than most previous Wilcox discoveries, thus widening the area of exploration and opening up new acreage. Geophysical work likewise is keeping pace with discoveries, especially by those companies that have not been interested in the sector before.

**Discovery:** Seaboard Oil Company has spudded its second test in the Hobson area of Karnes County, Fertsch 1, 1000 feet west of Rzeppa 1, discovery of the field. The new location is in southeast corner of 100-acre lease in Erasmo Seguin grant, Abstract 10. The company has completed Rzeppa 1 for 180 barrels of 32-gravity oil daily through 5/32-inch choke with 750 pounds tubing pressure and 1400 pounds on casing. Perforations were made at 4000-10 feet. The pay zone is sand, thought to be in Reklaw which is just above the Wilcox. Tests were made in the Carrizo section but salt water was recovered. Total depth is 4803 feet with 5½-inch set to 4048 feet.

Transwestern Oil Company has spudded Sellers 1, 7 miles southeast of Runge in Victor Blanco grant, Abstract 3. It is a 8500-foot test. Blanco Oil Company and Al Buchanan are drilling around 5000 feet in Nichols 1, proposed 8500-foot Wilcox test 4 miles south of Kenedy on a Stanolind Oil & Gas Company farmout.

**Live Oak County:** Three deep Wilcox tests are getting under way in the Oakville area. Henderson Coquat et al will drill two 7500-foot tests, first being Goebel 1 in southwest corner of Refugio County School Land survey, 3 miles northeast of Oakville. Second will be Fee 1 in J. Poitevent survey 1, 3½ miles northeast of Oakville. Simmons Oil Company is spudding Griam 1, wildcat 1½ miles south of Oakville in Santiago McGloin survey.

**Bee County:** Dirks Brothers are completing Page 2, wildcat discovery 1 mile north of shallow Voss field as a distillate well from perforations at 7464-78 feet in Carrizo sand. Sand was at 7460-7511 feet, and 50-gravity distillate was recovered on a drill-stem test at 7461-78 feet. Several other tests were made indicating gas and distillate. The discovery is in northern part of county in T. K. Pilkington survey.

**Nueces County:** Phillips Petroleum Company is opening a new distillate field 1½ miles southwest of Turkey Creek and 1½ miles west of Saxet field. The well was shut in for some time and then reopened. It made gas and distillate while cleaning through a 3/16-inch choke from perforations at 7202-08 feet with 36 shots. The sand was logged at 7195-7230 feet and showed 50-gravity amber distillate on drill-stem test. The discovery is Huermann in Charles Land Survey 412.

## Texas Gulf Coast

### Wildcat Activity Showing Signs of Reviving

Wildcatting on the upper coastal sector is showing stronger signs of breaking out of the doldrums. Three wildcats were staked last week, two being in Liberty with a third in Jefferson County. Major interest is centered on the Liberty-Jefferson area due principally to recent developments at Stowell in Jefferson County. Also in the spotlight is a well 1½ miles from production on the south side of the Esperson dome field in Liberty County. Although little information has ever been released about Esperson flank developments, it


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is reported that considerable sand was found in the extension producer.

**Liberty County:** The Ohio Oil Company has staked Quinn 1, proposed 10,500-foot wildcat four miles east of Cleveland. Location is on a 1071-acre tract in Daniel Donahoe League. This well will be a deep test for the area.

The Yegua Corporation has projected a 7500-foot test six miles south of Devers, Liberty County. Location is on a 638-acre tract in Carrie Meche survey. Drilling is due to start immediately.

**Extension:** General Crude Oil Company has given a major extension to the Esperson field in Liberty County with completion tests being made on Welsh-Fee 3. Potential gauge has not been run awaiting storage tanks. The well opens this production in the Cockfield sand which produces close in on the dome. The hole is bottomed at 9518 feet and perforations were reported to have been at 8400 feet.

**Jefferson County:** Glenn H. McCarthy et al have staked Hebert Trust 1, projected deep test 4 miles southeast of Lovell Lake. It is 2200 feet east along the center of the Fannett-Port Arthur road from east bank of Hillebrandt Bayou, thence 220 feet south at right angle, Burr and Caswell survey 9.

**Stowell:** The Texas Company has completed its first well in north extension area of Stowell field, Jefferson County. Steele 1, west of the extension discovery, was perforated at 7850-55 feet and flowed 711 barrels of 36.7-gravity oil through ¼-inch choke. Total depth is 7921 feet with 5½-inch set to 7920 feet.

**Waller County:** Stanolind Oil & Gas Company is making further tests in Pattison 1, north extension to Katy field. Last perforations were made at 7116-21 feet. While cleaning the well showed 2050 pounds tubing pressure and 2500 pounds on casing, ¾-inch choke. Previously the well showed gas-distillate production in perforations at 7338-45 feet. Humble Oil & Refining Company is setting 5½-inch in Hebert 1, Section 113, semi-wildcat 4000 feet east of the Stanolind well which extended production 3 miles northward. Humble's well is bottomed at 7185 feet.

**Brazoria County:** Abercrombie Oil Company and Magnolia Petroleum Company have been fishing in McDonald 1-B, deepest well in Texas, at Old Ocean. Drill collar stuck at 13,400 feet after drilling to 14,380 feet. This test is projected to 15,250 feet, which if reached will be the deepest test in the world.

## South Louisiana

### Sun Opens Miocene Sand Field in St. Landry Parish

Apparently the coastal sector has received its first major oil field of the year with production being opened in the Shuteston (Sunset) area of St. Landry Parish, by completion of Sun Oil Company's Burleigh Pool 1, wildcat in Section 37-7s-4e. Perforations were made at 9495-9506 feet, and the well flowed 134 barrels in 24 hours, through ⅛-inch choke for 8 hours and through 9/64-inch choke for 16 hours. Tubing pressure was 1000 pounds, gas-oil ratio 723-1. Total depth is 11,505 feet with 7-inch casing set to 10,753 feet. Several other sands were reported logged, but this


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was the only sand tested extensively. The oil is 31 gravity.

**Evangeline Parish:** Pan American Production Company has opened production from both the upper and lower Sparta sand sections at Pine Prairie with completion of Crowell 1, Section 2-4s-1w, south edge of the field which heretofore produced only from the Cockfield. Lower perforations were made at 8768-84 feet and flowed at rate of 14 barrels of 38.2-gravity oil hourly with 750 pounds pressure on tubing. The upper perforations were made at 8626-36 feet and 8650-70 feet and flowed 22 barrels hourly through ¼-inch choke. The company also is making a test in a thin sand section in the 7700-foot level, believed to be in the Jackson series.

**Vermilion Parish:** The Texas Company has five rigs running in the Erath unitized field to supply gas and distillate to a large recycling plant now under construction in that area. All of the wells are being carried below 10,000 feet. The company, which is doing all the drilling in its name, recently completed three deep tests but gauges have not been released.

**LLOYD N. HAMILTON,** president of Standard Oil Company of British Columbia since September, 1941, has left Vancouver, B.C., for Washington, D.C., where he will represent foreign interests of Standard Oil Company of California.

R. D. Baker, who has been serving as vice president of Standard Oil Company of British Columbia, has been named executive vice president and will be in charge of the company's operations during Hamilton's absence.

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## North Louisiana

### Claiborne Deep Wildcat To Test Distillate Show

Hunt Oil Company's Pardee A-1, NW NE 18-23n-11w, Bossier Parish, has been shut in temporarily, after 5000 gallons of acid in Pettit lime, and mud, oil and acid water at 5942-51 feet. Later a test from Pettit lime perforations at 5954-63 feet recovered only salt water.

**Webster Parish:** F. R. Sylvestre's Haynes 1, NE NE 29-23n-9w, stopped drilling at 5930 feet to set 5½-inch pipe to 5889 feet. Test in Pettit lime at 5836-55 revealed formation would not take acid. Massive anhydrite in Glen Rose horizon is to be tested at 4780-4800 feet.

**Claiborne Parish:** Gulf Refining Company's deep wildcat, Miller 1, NE NE 14-20n-8w, stopped drilling in Cotton Valley at 10,761 feet to run 6-inch pipe to bottom after a show of gas-distillate was recovered in cores at intervals from 10,469-472 feet and 10,472-476 feet. Miller 1 is 4 miles southeast of the old Homer field.

**DeSoto Parish:** Seven miles west of Mansfield, Crosby Drilling Company's Andres 1, SE SE 5-11n-14w, now drilling below 3871 feet, will explore Jeter zone at approximately 5500 feet. This test is ¼ mile southeast of N. W. Hunter's Andres 1, NW SE 5-11n-14w, wildcat which blew out in 1940 at 4818 feet and abandoned.

## Arkansas

### Wildcat Showings Negative In Several Counties

W. G. Ray Company et al's Warnock-Lecroy 1, SW SW 3-20s-24w, Lafayette County, logged water sand and no porosity in Pettit lime horizon. Operators quit drilling at 6326 feet at this outpost one mile north of North Carterville.

An old 1941 Smackover lime prospect, W. B. White et al's Garner 1, NW SW 13-16s-24, is getting a workover. This is a wildcat Ohio Oil Company quit at 7578 feet in salt after exploring Smackover lime topped at 6937 feet. Previously this test had showed slightly in a drill-stem test at 6937-45 feet. Garner 1 is three miles northeast of Lewisville.

**Columbia County:** Hunt Oil Company stopped drilling in Pettit lime at Pinewoods A-1, SE NW 9-20s-22w at 6290 feet, after recovering salt water in lower Pettit zone. This wildcat is midway between flush Pettit lime production at Haynesville and North Carterville.

**Miller County:** Barnsdall et al's Grace 1, SE NW 4-15s-27w is venturing below porosity in Smackover lime which was logged at 6183 feet. Best show was in cores at intervals in Smackover from 6191-96 feet and 6196-6226 feet recovering a net of 3½ feet of lime streaked with oil. It topped Cotton Valley horizon at 6040-60 feet. Buckner was drilled through at 5975 feet. At last report Grace 1 was drilling at 6374 feet.

Magnolia Petroleum Company et al's Olivet A-9, Smackover lime wildcat, NE NE 4-16s-26w, cored oil sand at 5141-46 feet. A 15-minute drill-stem test recovered salt water and mud. Operators reamed hole to drill below 5240 feet. Smackover lime is expected to show at approximately 7000 feet.

## Michigan

### *Snow-blocked Roads Halt Field Work*

Nine locations have been surveyed in Cedar Township, Osceola County, newest Michigan field prospect, but severe snow storms have delayed starts.

Completions in the Aetna-Prosper field, Missaukee County, which had been due for this week were delayed by snow blocked roads. Six wells are drilling, using rotary all the way in the 3800-foot hole. Markers indicate the productive area may be more restricted than first projected. All of the drilling wells are offsets to either the discovery or the second producer which is located a half mile west of the field opener.

Oil Producers, Inc.'s Woods 1, NE SE SE 24-18n-12w, Cherry Valley Township, Lake County, will be deepened from its present depth of 3594 feet to about 4600 feet to test Sylvania. Both the Dundee and Upper Monroe were dry.

## California

### *Wildcat Drilling All Near Producing Areas*

Nearly all the half-hundred or so wildcat projects active in California are located no great distance from production. This avoidance of pioneer type exploration attests the dubious character of most prospects turned in by the numerous surveying parties now working over the state's remaining untested areas. However, there are rumors that in some isolated instances geophysical crews have turned up highly interesting showings for regions well off the beaten track; and this may presage a change in trend later in the year. In two such areas large operators recently have put together some large blocks.

Areas around 14 of Kern County's older fields account for 18 of the current tests, and 14, with about half of the number idle for one reason or another, are in Los Angeles County. Fresno County lists 8 projects, and 4 of these are seeking extensions of the newly discovered Pleasant Valley field.

**San Luis Obispo County:** Although a few streaks of oil sand were cut below the Miocene contact in Los Nietos Oil Company's Edna area wildcat, Holmes 1, Section 6-32-13, showings are not of enough importance to warrant a production test, and the well likely will be abandoned at present bottom of 3935 feet.

**Santa Barbara County:** Tide Water Associated Oil Company's Chamberlin 1, Section 33-4-31, at 3701-4425 feet yielded 265 barrels gross of 15-gravity oil but had a cut of 36 percent. It is reported company has decided to kill the well and carry the hole deeper.

**J. W. MYERS** has been made head of the newly organized insurance and social security department of Standard Oil Company of New Jersey. Myers graduated from Cornell, and has been associated with the company since 1918, working in the field of insurance, annuities, benefits and thrift as concerned employes.


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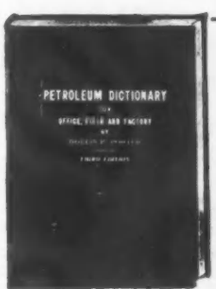


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# United States Well Completions

### ARKANSAS

**Columbia County — Columbia Extension Failure:** Roy Lee, Trustee's Pickier 2, ne sw 23-17s-21w, abnd 8146 ft.

**Columbia County—Macedonia:** Tide Water Associated's Foreman-Whitlow Unit 1, n½ sw 21-18s-21w, flow 24 bbls, 64-gr, 7% sw, 3 hrs, ¼-in, perf 7996-8006 ft, tp 2210, cp 2400, gor 15,731/1, td 8948 ft.

**Stephens—Smart:** McAlester Fuel Oil's Longino 1, nw ne 10-15s-20w, abnd 4006 ft.

**Miller County:** Carter's Sturgis F-1, nw ne 11-17s-27w, pump 50 bbls, perf 3653-71, td 3694 ft.

Carter's Sturgis 12, se nw ne 1-17s-27w, pump 108 bbls, perf 3645-62, td 3860 ft.

**Pope County—Sliex East Extension Failure:** Arkansas Louisiana Gas Co.'s Millsaps 1, sw 23-10n-21w, abnd 4120 ft.

**Union County—New London East Extension:** Marine Oil Co.'s Pagan Unit 1, sw sw nw 18-18s-11w, perf 5680-98, flow 140 bbls, td 5824 ft.

**Union County — Urbana:** D. V. Lacefield's Burnshide 4, se ne 24-18s-14w, pump 28 bbls, 2207 ft.

### ARKANSAS WILDCATS

**Bradley County—Failure:** Placid's Southern 2, nw sw 12-16s-10w, abnd 5390 ft.

**Columbia County:** Hunt's Pinewood's Lumber Co. A-1, se nw 9-20s-22w, temp abnd 6290 ft.

**Lafayette County — Failure:** W. G. Ray Drilling Co. et al's Warnock-Lecroy 1, sw sw 3-20s-24w, abnd 6326 ft.

### CALIFORNIA

**Fresno County—Coalinga Old Field:** Shell's 104-2, 2508 ft s, 461 e nwc 2-20-15, pump 50 bbls, 179 ft perf 3235 ft, 1st oil sand 3284 ft. black shale 3080-94 ft, pd 3255 ft, td 3483 ft.

**Kern County — Belridge South:** General's 30-12, 235 ft n, 268 w c 12-29-21, pump 25 bbls oil, 9 water, 268 ft perf 1089 ft, td 1090 ft.

**Kern County—Buena Vista Hills:** Standard's 69-29B, 440 ft s n¼c 29-21-23, pump 7 bbls, pd 2892 ft, td 2930 ft.

Standard's 88-7D, 1507 ft s, 2196 e nwc 7-32-24, pump 29 bbls 27.3-gr, 5½-in 2910 ft, td 2912 ft.

**Kern County—Kern River:** Rio Kern Oil Co.'s 5, 500 ft n, 500 e swc 28-28-28, pump 6 bbls 14-gr, 134 ft 6-in perf 492 ft, oil sand 405 ft, td 492 ft.

**Kern County—Midway-Sunset:** Vedder Petroleum Corp.'s 1, 235 ft n, 660 w sec 9-31-22, pump no est, H & T sand 1005 ft, td 1184 ft. 1500 ft, pd 1108 ft.

Vedder's 2, 235 ft n, 1085 w sec 9-31-22, pump no est, H & T sand 1005 ft, td 1184 ft.

**Kern County — Williams-Antelope Hills:** Shell's Williams 75-6, 2878 ft s, 4422 e nwc 6-28-20, pump 126 bbls oil, 18 water, 63 ft perf 2500 ft, IB zone 2285-2377 ft, td 2789 ft, pd 2500 ft.

**Los Angeles County — Newhall-Potrero:** Barnsdall's R.S.F. 34, 6540 ft s, 7560 e corner J, 35-4-17, flow 265 bbls net 29.8-gr, 15/64-in, 480/1180 lbs, perfs 7258-7298, 7378-7622 ft, top 3rd zone 7440 ft, td 7627 ft.

**Orange County—Yorba Linda:** Shell's Olinda Fee 4 56-16, 3046 ft n, 2229 ft w c/l Citrus & Eureka Aves., pump 286 bbls 18.6-gr, perfs 2347-2315, 2295-2267, 2202-2137 and 2107-2082 ft, td 2352 ft.

**Santa Barbara County—Los Olivos:** Tide Water Associated's Chamberlin 1, 1868 ft s, 688 w nwc Carranza Mesa Tr., pump distillate injection method, 265 bbls gross 15-gr, 36 percent cut, 721 ft perf 4425 ft, top Sisquoc 1400 ft, td 4430 ft.

Shell's Taylor 159, 1789 ft s, 13, 71o w c/l No. 11, gas lift 300 bbls oil, 75 water, perfs 9931-9890, 9848-9568 and 9313-8950 ft, td 9936 ft.

### CALIFORNIA WILDCATS

**Butte County—Failure:** Superior's Dodgeland 1, 30-20-1, Cana area, abnd 7888 ft.

**Kern County—Failure:** General's Wakefield 1, 15-28-28, Round Mountain extension, abnd 2898 ft.

**Kern County—Failure:** Texas Co.'s Voight 74-6, Williams-Antelope Hills flank, 6-28-20, abnd 3012 ft.

**Santa Barbara County—Failure:** Bel Air Oil Co.'s Williams 1, Cat Canyon area, Monterey shale 4700 ft, abnd 6291 ft.

**Los Angeles County—Failure:** J. E. F. Oil Co.'s Larson 1, 23-4-11, Stanton area, abnd 3203 ft.

### ILLINOIS

**Clay County:** H. Luttrell et al's Reed 8, c se ne ne 15-5n-5e, Weiler 2126-48 ft, 175 bbls, 2148 ft.

Texas Co.'s Kidwell 6, c sw se nw 15-5n-5e, Aux V 2344-61 ft, 90 bbls, 2361 ft.

Texas Co.'s Kidwell 9, c se nw nw 15-5n-5e, Aux V sand 2344-51 ft, 25 bbls, 2351 ft.

Texas Co.'s Risser 1, c nw nw se 15-5n-5e, Aux V 2319-36 ft, 174 bbls, 2336 ft.

Tide Water's Davis 2, c ne sw ne 15-5n-5e, Ben 2290-2308 ft, Aux V 2341-68 ft, 155 bbls, 2368 ft.

Walter Duncan's Brink 1, c nw nw nw 3-5n-7e, Weiler 2531-41 ft, 200 bbls, 2541 ft.

Texas Co.'s Bloemker 4, c nw ne ne 4-5n-7e, Weiler 2518-40 ft, 164 bbls, 2540 ft.

**Fayette County:** Carter's Harold Beck 28-2, se se sw 21-8n-3e, Ben 1463-91 ft, gas input, 1512 ft.

**Franklin County:** Earnest Eslick's Swain 2, nw se nw 18-5s-2e, abnd 2751 ft.

**Gallatin County:** Skelly's Schmitt 2, c se nw nw 15-8s-9e, Cyp 2516-24 ft, 60 bbls, 2574 ft.

Carter's Busick 5, c se nw se 11-8s-10e, Clore 1721-36 ft, Tar Spgs 2034-54 ft, 111 bbls, 2057 ft.

**Hamilton County:** Shell's Hungate 3, n½ sw sw 24-6s-5e, Aux V 3106-28 ft, 47 bbls, 3137 ft.

Texas Co.'s Hunt 3, c nw nw sw 7-6s-6e, Aux V 3090-3111 ft, 188 bbls, 3111 ft.

Perrine & Pearson's Lee 1-A, sw ne nw 27-6s-6e, Aux V 3063-97 ft, 297 bbls, 3097 ft.

Shell's Ritcheson 6, c se se ne 7-6s-7e, Aux V 2976-3004 ft, 4 bbls, 3022 ft.

**Jasper County:** Pure's Resch 3, c sw se 17-6n-10e, McCl 2805-25 ft, 431 bbls, 2945 ft.

**Jefferson County:** Lewis Prod. Co.'s Game Res. 1, c sw sw nw 28-3s-3e, Aux V 2718-39 ft, 37 bbls, 2805 ft.

**Lawrence County:** Smith & Nye's Spidel-Hoovermill 1, nw sw se 23-2n-12w, Biehl 1360-90 ft, 220 bbls, 1390 ft.

Sam Malias' Potts 2, ne ne sw 26-2n-12w, Biehl 1345-1403 ft, 120 bbls, 1405 ft.

**Madison County:** Bryant et al's Frye-Muehler 1, c sw se ne 16-3n-6w, Trenton 2367-90 ft, 230 bbls, 2390 ft.

**Marion County:** H. Lilly et al's Burge 1, c sw ne nw 16-1n-1e, Weiler 1661-74 ft, 64 bbls, 1674 ft.

Texas Co.'s Beinz 1, c ne nw se 16-1n-2e, McCl 2107-13 ft, 69 bbls, 2120 ft.

**Richland County:** Pure's J. O. Coen 35, c e½ of sec 4-3n-9e, Weiler 2584-2600 ft, 352 bbls, 2600 ft.

Ky. Nat. Gas and Parriott's Thompson-Geahart 1, c s½ sw nw 18-4n-10w, Bridgeport 796-813 ft, 2600 gas, 813 ft.

Pure's Harrell Consol. 1, c se ne sw 26-4n-9e, Weiler 2569-82 ft, 68 bbls, 2582 ft.

**Wabash County:** Magnolia's Sturman 3, c se ne ne 10-1s-13w, Weiler 2333-46 ft, 21 bbls, 2348 ft.

**Wayne County:** W. R. Braun's Bailey 1, c n½ ne se 26-1n-6e, abnd 3069 ft.

McBride, Inc.'s, Youngblood-Gregory 2, c se sw se 19-1s-5e, Aux V 2882-93 ft, 60 bbls, 2908 ft.

N. V. Duncan, Inc.'s Gillison 1, c se sw 2-1s-8e, Aux V 2978-96 ft, 74 bbls, 3110 ft.

Pure's W. Farris 1, c ne sw 7-1s-8e, abnd 3301 ft.

**White County:** Mabee's Smith 10, nw se sw 4-4s-14w, Cyp sand 2557-67 ft, Aux V sand 2798-2823 ft, 38 bbls, 2823 ft.

Ivan White's Fitzgerald 1, c sw nw nw 31-4s-14w, abnd 2390 ft.

Skelly's Bryant 3, c e½ se sw 7-4s-10e, Tar Spgs 2474-2527 ft, 71 bbls, 3103 ft.

Carter's Phillips 1, c nw nw ne 19-6s-9e, Cyp sand 2643-62 ft, Aux V sand 2989-2920 ft, 44 bbls, 2924 ft.

Carter's Cange 1, c sw ne 2-7s-8e, abnd 2985 ft.

### ILLINOIS WELLS DEEPENED

**Marion County:** Texas Co.'s Martin 12, se se se 17-2n-2e, otd 3477 ft, Dev 3477-3676 ft, 16 bbls, 3676 ft.

Texas Co.'s Martin 13, sw se se 17-2n-2e, otd 3480 ft, Dev 3550-60 ft, 120 bbls, 3690 ft.

Texas Co.'s Young 22, ne se ne 20-2n-2e, otd 3451 ft, 3508-25 ft, 102 bbls, 3655 ft.

Texas Co.'s Young 25, se se ne 20-2n-2e, otd 3439 ft, Dev 3482-90 ft, 20 bbls, 3680 ft.

Texas Co.'s Young 19, nw sw nw 21-2n-2e, otd 3467 ft, Dev 3564-77 ft, 20 bbls, 3654 ft.

### ILLINOIS WILDCATS

**Madison County—Failure:** John Lee's Alberts 1, sw ne ne 11-5n-6w, abnd 811 ft.

Kingwood's Niggle 1, c ne ne ne 29-5n-5w, abnd 2713 ft.

**Montgomery County—Failure:** J. W. Sward's Hanna 1, c se se 14-9n-4w, abnd 610 ft.

**St. Clair County—Failure:** Roberson et al's Karfan 1, c ne sw 17-2s-8w, abnd 1480 ft.

**Wabash County—Failure:** N. V. Duncan's Crum 1, c ne ne ne 14-1n-13w, abnd 2633 ft.

**Wabash County—New Field:** Elmer Caudell's Price 1-C, c n½ se se 23-1n-12w, Bridgeport 1048-81 ft, 65 bbls, 1081 ft.

**Wayne County—Failure:** Deep Rock's Gardner 1, c sw sw nw 15-3s-8e, abnd 4002 ft.

### INDIANA WILDCATS

**Gibson County — New Field:** Superior's Thompson 1, nw se nw 25-2s-12w, McCl 2411-17 ft, 180 bbls, 2454 ft.

**Pike County—Failure:** Shell's Thomas 1, sw nw nw 14-1s-8w, abnd 1560 ft.

**Posey County—Failure:** Carter's Wolf 1, c sw sw 14-7s-14w, abnd 2901 ft.

## Wells Completed in the United States in Week Ended March 13, 1943

**Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.**

| State or District | FIELD COMPLETIONS New Wells *Oil | Gas | †Input | Dry | Total | Old Wells Deepened | WILDCAT COMPLETIONS *Oil | Gas | Dry | Total | ALL COMPLETIONS This Week | Last Week | Cumulative This Year | Cumulative Last Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | | | | | | | | | | | | | | 2 |
| Arkansas | 4 | | | 1 | 5 | | 1 | | 5 | 6 | 11 | | 30 | 40 |
| California | 12 | | | | 12 | | | | 5 | 5 | 17 | 18 | 240 | 203 |
| Colorado | | | | | | | | | | | | | 5 | 3 |
| Georgia | | | | | | | | | | | | | | 1 |
| Illinois | 28 | 1 | 1 | 5 | 35 | 5 | 1 | | 6 | 7 | 47 | 32 | 406 | 441 |
| Indiana | | | | | | | 1 | | 2 | 3 | 3 | 9 | 53 | 84 |
| Kansas | 13 | | 1 | 5 | 19 | 2 | 2 | | 5 | 7 | 28 | 30 | 302 | 384 |
| Kentucky | 4 | | | 1 | 5 | | 1 | | 3 | 4 | 9 | 9 | 56 | 39 |
| Louisiana | 7 | 1 | | 2 | 10 | | | | 3 | 3 | 13 | 6 | 110 | 262 |
| North Louisiana | 2 | 1 | | 1 | 4 | | | | 3 | 3 | 7 | | 44 | |
| South Louisiana | 5 | | | 1 | 6 | | | | | | 6 | 6 | 66 | |
| Michigan | 1 | | | | 1 | | | | 3 | 3 | 4 | 7 | 83 | 159 |
| Mississippi | 1 | | | | 1 | | | | 1 | 1 | 2 | | 6 | 38 |
| Missouri | | | | | | | | | | | | | 1 | 6 |
| Montana | | | | | | | | | | | | 2 | 38 | 36 |
| Nebraska | | | | | | | | | | | | | | 9 |
| New Mexico | 2 | | | 1 | 3 | | | | | | 3 | 5 | 51 | 86 |
| New York | 12 | 1 | 6 | | 19 | | | | 1 | 1 | 20 | 18 | 239 | 279 |
| Ohio | 1 | 8 | | 7 | 16 | | | | | | 16 | 20 | 191 | 299 |
| Oklahoma | 7 | 3 | 1 | 8 | 19 | | | | 1 | 1 | 20 | 23 | 276 | 405 |
| Pennsylvania | 29 | 4 | | | 33 | | | | | | 33 | 58 | 500 | 773 |
| Tennessee | | | | | | | | | | | | | | 2 |
| Texas | 37 | 3 | | 8 | 48 | | 1 | 3 | 27 | 31 | 79 | 63 | 772 | 1,702 |
| East Texas | 2 | | | | 2 | | | 1 | 2 | 3 | 5 | 2 | 45 | |
| North Texas | 6 | | | 3 | 9 | | 1 | | 7 | 8 | 17 | 14 | 174 | |
| West Central | | 1 | | 1 | 2 | | | | 1 | 1 | 3 | 2 | 61 | |
| West Texas | 11 | 1 | | 1 | 13 | | | | 2 | 2 | 15 | 19 | 177 | |
| Panhandle | 3 | | | 1 | 4 | | | 1 | 2 | 3 | 7 | 4 | 59 | |
| Upper Coast | 1 | | | 2 | 3 | | | | | | 3 | 4 | 47 | |
| Lower Coast | 11 | | | | 11 | | | 1 | 6 | 7 | 18 | 7 | 112 | |
| Southwest | 3 | 1 | | | 4 | | | | 6 | 6 | 10 | 9 | 80 | |
| South Central | | | | | | | | | 1 | 1 | 1 | 2 | 17 | |
| West Virginia | 2 | 5 | | 2 | 9 | | | | | | 9 | 9 | 124 | 163 |
| Wyoming | | | | | | | | | | | | 4 | 30 | 21 |
| Total U. S. | 163 | 26 | 9 | 40 | 235 | 7 | 7 | 3 | 62 | 72 | 314 | 313 | 3,513 | 5,437 |

* Includes distillate wells. † Includes salt water disposal wells.

### KANSAS

**Barton County—NE Kraft Prusa:** Phillips' Blue 2, c s½ sw se 36-16s-11w, Arb 3370 ft, abnd 3400 ft.

**Barton County—Kraft Prusa:** Lauck & Moncrief's Oeser 2, ne sw se 25-16s-12w, Topeka 2895-2907 ft, pb to 2932 ft, 3000 gal acid, pump 160 bbls oil and salt wtr, 3393 ft.

**Butler County—Eldorado:** Phil-Han's Robinson 1, ne se se 18-25s-5e, Miss 2535 ft, pump 90 bbls, 2556 ft.

**Ellsworth County—Wilkens:** C. E. Ash's Wilkens C-1, s n½ ne se 13-17s-10w, Arb 3252 ft, shot 20 qts, 1000 gal acid, pump 3 bbls oil, 6 wtr 40 hrs, abnd 3277 ft.

**Jefferson County — McLouth:** Hatcher & Fisk's Black 1, c ne ne 29-9s-20e, McLouth sand 1464 ft, Miss 1487 ft, abnd 1497 ft.

Apperson's Bower 2, sw ne ne 5-10s-20e, Miss 1511 ft, abnd 1651 ft.

**Leavenworth County—McLouth:** Chas. Miller's J. A. Bell 2, c sw nw 7-10w-21e, Miss lime 1335 ft, abnd 1342 ft.

**McPherson County — Lindsborg:** Dickey's Rundbeck 1, c w½ se se 18-17s-3w, Viola 3349 ft, pb to 3393 ft, 2500 gal acid, pump 23 bbls oil and salt wtr, 3488 ft.

**McPherson County—SW Lindsborg:** Auto-Ordnance's Bengstrom 3, c w½ sw se 25-17s-4w, Viola 3384 ft, 5000 gal acid, 2516 bbls, 3394 ft.

**Reno County—Peace Creek:** Cities Service's Keesling B-4, sw se se 1-23s-10w, Viola 3731 ft, pump 227 bbls, 3739 ft.

**Rice County—Silica:** Phillips' Miner 4, c sw se 35-19s-10w, Arb 3282 ft, 300 gal acid, 3000 bbls, 3285 ft.

**Rush County — Winget:** Falcon-Seaboard's Winget 1, se nw se 15-16s-16w, Arb 3507 ft, abnd 3542 ft.

**Russell County—Greenvale:** Nat'l Ref. Co. and Phil-Han Oil Co.'s J. Vopat 1, c s½ se se 33-14s-12w, Lans 2895 ft, 5000 gal acid, pump 435 bbls, 2978 ft.

**Russell County—Hall-Gurney:** Gulf's Fink 2, c sw se 15-14s-14w, KC 3002 ft, 6000 gal acid, pump 400 bbls, 3266 ft.

**Russell County — Trapp:** Cities Service's Ochs 5, c nw ne 23-15s-14w, Arb 3368 ft, pump 120 bbls, 3379 ft.

**Stafford County—Drach:** Stanolind's Schartz 5, c ne ne 13-22s-13w, Arb 3672 ft, pump 602 bbls, 3676 ft.

**Stafford County—Zenith:** Great Lakes Carbon's Buckles 1, c e½ se nw 3-24s-11w, Viola 3695 ft, 3000 gal acid, 513 bbls, 3730 ft.

**Trego County — Wakeeny:** Watchorn's Rhoades 3, c sw nw 14-11s-23w, Arb 3982 ft, abnd 4075½ ft.

### KANSAS WELLS DEEPENED

**Ellsworth County—Lorraine:** Phillips et al's Ogden A-4, c s½ s½ sw 26-17s-9w, otd 3182 ft, salt wtr disposal well, 3643 ft.

**McPherson County — Ritz Canton:** E. B. Shawyer's Lively 1, sw sw nw 21-19s-1w, otd 2971 ft, Simp 3398 ft, abnd 3488 ft.

**Stafford County—Zenith:** Stanolind's Harbeson 2, c n½ se nw 11-24s-11w, otd 3734 ft, Viola 3730 ft, 250 gal acid, 3000 bbls fluid 12% wtr, 3763 ft.

### KANSAS WILDCATS

**Barber County—Failure:** Olson Oil Co.'s McClain 1, c sw ne 20-31s-11w, Lans 3825 ft, Miss 4488 ft, Base chat 4499 ft, abnd 4502 ft.

**Butler County—New Field:** Rex & Morris et al's Allen 1, ne nw sw 1-26s-3e, Lans 1925 ft, KC 2235 ft, Base KC 2380 ft, Miss 2655 ft, Viola 3012-21 ft, pb 2708 ft, 1000 gal acid, 15 bbls, 3021 ft.

**Graham County—Failure:** Skelly's Mills 1, sw sw se 2-6s-23w, Anhy 2035 ft, Topeka 3395 ft, Heebner 3575 ft, Lans 3598 ft, Cong 3882 ft, Arb 3966 ft, abnd 3996 ft.

N. Appleman's Buss 1, nw ne sw 1-9s-22w, Anhy 1735 ft, Topeka 3185 ft, Lans 3464 ft, Base KC 3665 ft, Cherty cong 3788 ft, Rew Arb 3807 ft, abnd 3810 ft.

**McPherson County—Failure:** Republic Natural Gas Co.'s Burk 1, ne ne sw 7-18s-1w, Miss 2784 ft, abnd 2815 ft.

**Phillips County—New Field:** Tom Allan and Cooperative's Skelton 1, c ne nw 13-2s-19w, Lans 3334 ft, Marm 2563 ft, Arb 3701 ft, 2800 gal acid, swab 72 bbls, 3737 ft.

**Reno County—Failure:** Falcon-Seaboard's Stevens 1, sw ne ne 10-22s-8w, Anhy 340 ft, Topeka 2595 ft, Lans 3059 ft, Cong 3504 ft, Miss 3510 ft, Mise 3640 ft, Hunton 3644 ft, Maquoketa 3702 ft, Viola 3784 ft, Simp sand 3820 ft, Simp shale 3834 ft, Arb 3891 ft, abnd 3900 ft.

### KENTUCKY

**Daviess County:** Petroleum Co.'s Burns 5, 16-N-29, abnd 1725 ft.

**Henderson County:** Cherry & Kidd's Burbank 11, 4-P-21, McCl 2570-84 ft, and 2627-36 ft, 850 bbls, 2687 ft.

Farm Bureau's Burbank A-9, 23-Q-21, Cyp 2302-15 ft, 570 bbls, 2315 ft.

Trans-Tex Prod. Co.'s E. W. Alley 3, 23-Q-21, Cyp 2300-08 ft, 500 bbls, 2308 ft.

**Union County:** Carter's Robinson 2, 20-P-19, Walts 1820-42 ft, 27 bbls, 2051 ft.

### KENTUCKY WILDCATS

**Henderson County—Failure:** Fisher Oil Co. and Sun's Porter 1, 12-O-24, abnd 2603 ft.

**Henderson County — New Field:** Miller & Shiarella's Willett 1, 16-P-21, McCl 2576-81 ft, 200 bbls, 2586 ft.

**Henderson County — Failure:** Carter's Carroll 1, 19-P-23, abnd 2729 ft.

Walter Chenault et al's Waller 1, 21-Q-26, abnd 2070 ft.

### NORTH LOUISIANA

**Bossier Parish — North Carterville:** Hunt Oil Co.'s Oglee 1, ne ne 10-23n-12w, swab 149 bbls, 10 hrs, perf 6048-6140, 5000 gals acid, gor 697-1, td 6202 ft.

**Claiborne Parish—Sugar Creek:** Carter Oil Co.'s Stevenson-Kilpatrick A-1 (formerly 3) sw nw 12-19n-6w, elev 254, Travis Peak, pump 126.73 bbls 35.2-gr, perf 5770-84, gor 426-1, td 6198 ft.

Haynes B. Ownby Co.'s Blackwell 1, ne sw 12-19n-6w, abnd 6012 ft.

**DeSoto Parish—Logansport:** Arkansas Louisiana Gas Co.'s Fletcher Unit 1, 75,000,000 gas, perf 4894-4947, 5000 gals acid, td 4950 ft.

### NORTH LOUISIANA WILDCATS

**Bossier Parish:** Bering Oil Co.'s Moresi 1, sw ne se 10-22n-14w, abnd 3062 ft.

Hunt Oil Co.'s Pardee A-1, nw ne 18-23n-11w, temp abnd, 6083 ft.

**Red River Parish:** Westgate Greenland Oil Co.'s Westdale 1, nw ne 29-14n-11w, abnd 3420 ft.

### SOUTH LOUISIANA

**Calcasieu Parish—Vinton:** Union's Gray 6-G, 330 ft s, 1652 w nec 33-10s-12w, 5½-in 5837 ft, perf 5635-55 ft, flow 157 bbls, ⅛-in, ktd 5837 ft.

**Evangeline Parish—Ville Platte:** Continental's Haas 1, 657 ft w, 1681 s swc 34-3s-2e, in 4-4s-2e, 40-ac unit, 6-in 10,276 ft, perf 10,204-233 ft, flow 121 bbls, 12/64-in, td 10,276 ft.

**Iberia Parish—Lake Fausse Point:** Texas Co.'s State-Lake Fausse Point 11, 6234 ft n, 2717 e swc 27-11s-8e in Lake, 7-in 8714 ft, perf 8690-8712 ft, flow 228 bbls, 10/64-in, td 8776 ft.

**Iberville Parish—Bayou Blue:** Union Sulphur's Schwing 7, 1155 ft n, 998 e c 67-9s-11e, abnd 7102 ft.

**LaFayette Parish—Anse la Butte:** Stanolind's Nickerson 2, 2579 ft sw'ly alg sel fr se'ly cor sec 43, thence 990 ft nw'ly at ra in 43-9s-5e, 7-in 9200 ft, 4½-in liner 9104-10,343 ft, perf 9880-9905 ft, flow 227 bbls, ⅛-in, td 10,346 ft.

**St. Martin Parish—West Lake Verrett:** Shell's Burdin 4, s 00 deg 20 mins e 1850 ft thence n 89 deg 32 mins e 668 ft fr nw cor sec 15-14s-12e, 5½-in 7500 ft, perf 7470-78 ft, flow 227 bbls, ⅛-in, td 7545 ft.

### MICHIGAN

**Mecosta County—Fork:** Gulf's Hamill 1, s½ ne nw 8-16n-7w, Dundee 3795-98 ft, flow 409 bbls, 3798 ft.

### MICHIGAN WILDCATS

**Allegan County — Failure:** W. S. Cook's Joostbrens 1, ne sw nw 12-3n-15w, Traverse 1407 ft, abnd 1456 ft.

**Oceana County — Failure:** Muskegon Dev. Co.'s State 1, c nw sw 27-13n-15w, Dundee 2483 ft, abnd 2616 ft.

**Van Buren County—Failure:** Michigan Devonian's Simmons 1, w½ ne ne 16-1s-13w, Traverse 1390 ft, abnd 1401 ft.

### MISSISSIPPI

**Yazoo County — Pickens-Sharpsburg:** Carter's Bridgeforth 2, nw se 32-12n-3e, Eutaw, pump 500 bbls, 50 percent water, 4900 ft.

### MISSISSIPPI WILDCATS

**Simpson County — Failure:** Carter's Allison 1, sw nw 17-1n-4e, Wilcox 2685, Eutaw 7697, Tuscaloosa 8115, abnd 9578 ft.

### NEW MEXICO

**Eddy County:** Western Prod. Co.'s Keely 6-C, c ne nw 26-17s-29e, flow 260 bbls 2-in, acid 500 gals 2766-2800 ft, td 2868 ft.

**Lea County—East Lusk:** Carper Drlg. Co.'s Miller 2, c ne sw 19-19s-32e, elev 3554 ft, abnd 2680 ft.

**McKinley County — Hospah:** Petroleum Products Corp.'s Osborn 1, 1980 ft nsl and 577 ft ewl 31-18n-8w, flow 26 bbls, plus 15% water, natural, 1710-20 ft.

### NEW MEXICO WILDCAT

**Lea County — Failure:** Argo Oil Corp.'s State-Shilo 1, c se se 20-20s-35e, elev 3727 ft, anhydrite 2023 ft, salt 2060-3615 ft, Yates 3800 ft, abnd in sul w 4179-87 ft.

### OKLAHOMA

**Creek County—Hickory Grove:** Mealy Wolf's Watson 1, se sw ne 3-14n-7e, Bartles 3089 ft, 2,300,000 gas, 3113 ft.

**Creek County—Unnamed:** J. E. Crosbie's Wall 1, se se sw 30-14n-7e, Prue 2834 ft, 17,500,000 gas, 2867 ft.

**Creek County — Glenn:** Sinclair Prairie's Berryhill 40, ne se nw 16-17n-12e, Glenn 1389-1555 ft, repressure well, 1569 ft.

Sinclair Prairie's Berryhill 41, sw ne nw 16-17n-12e, Glenn 1387-1547 ft, 1548 ft.

**Okfuskee County—Weleetka:** W. A. Fleming's Robinson 2A, se sw sw 1-10n-11e, lime 3052-62 ft, abnd 3100 ft.

**Okmulgee County—Eram:** Parks' Carter 1, e ½ne nw 5-13n-15e, sandy lime 1990 ft, abnd 2000 ft.

**Okmulgee County—Oklahoma Central:** Seismograph Service Corp.'s Thompson 1, c n½ n½ ne 19-15n-11e, Wx 3132 ft, shot 25 qts 3130-55 ft, pump 8 bbls oil, 60 wtr, abnd 3158 ft.

**Osage County—Wildhorse:** Peters Pet. Co.'s (Osage) 2, sw ne ne 15-22n-10e, Arb 2062 ft, abnd 2135 ft.

**Osage County — Avant:** Sinclair Prairie's Tribe 67, sw ne ne 19-23n-12e, Bartles 1538 ft, pay 1600-55 ft, shot 50 qts, pump 10 bbls, 1679 ft.

**Pittsburgh County—Unnamed:** Schene's J. Schudel 1, sw sw ne 1-5n-15e, Hartshorne 1958-2188 ft, shot 350 qts, 3 gas, 2204 ft.

**Pittsburg County—Canadian:** J. E. Welble's Smith 4, se se ne 5-8n-16e, salt sand 410-12 ft, abnd 412 ft.

**Pontotoc County—Bebee:** R. I. Carter's Bennet 1, ne se sw 33-5n-5e, Black shale 1850 ft, abnd 1910 ft.

**Seminole County — Unnamed:** Blackwell's Fleet & Osborn 2, c ne 12-5n-6e, sand 1929 ft, 3 gas, 1946 ft.

**Seminole County — Seminole City:** Shell's Tiger 1, sw ne ne 13-9n-6e, Hunton 3992 ft, 3000 gal acid, swab and flow 156 bbls oil, 137 wtr, 4030 ft.

**Stephens County — North Velma:** Gulf's Spears 2, sw nw sw 14-1s-5w, sand 2424 ft, abnd 3060 ft.

**Stephens County—Velma:** W. F. Turner's Spears 1, c sw se se 15-1s-5w, lime 2078-79 ft, abnd 2256 ft.

Skelly's McCasland 1, nw se se 36-1s-5w, sand 795-812 ft, pb to 812 ft, shot 5 qts, pump 20 bbls 7 hrs, 816 ft.

**Stephens County—Woolsey:** Phillips' Baker 1, sw sw nw 36-2s-6w, sand 1545-59 ft, pb to 1567 ft, perf, pump 4 bbls oil, 4 wtr 5 hrs, 1841 ft.

**Stephens County—West Loco:** Sinclair Prairie's R. Stanley 1, sw sw sw 5-3s-5w, Loco lime 1034 ft, pb to 1139 ft, 3500 gal acid, pump 15 bbls oil, 2 wtr, 1250 ft.

H. J. Brown's Lowrey 3, se sw nw 8-3s-5w, sandy lime and sand 1060-1150 ft, pump 40 bbls, 1150 ft.

### OKLAHOMA WILDCATS

**Haskell County—Failure:** LeFlore Oil Co.'s Wallace 1, c ne 6-8n-21e, sand 1610-25 ft, Webers Fall zone 2465-2600 ft, abnd 4516 ft.

### EAST TEXAS

**Wood County — Hawkins:** Humble's Clift 1-B, 1900 ft nsl and 2500 ft ewl of Jas. Pollock sur, Woodbine 4695 ft, flow 477 bbls, ¼-in, perf 4818-26 ft, td 4890 ft.

**Wood County—Quitman:** Delta Drlg. Co. et al's Blalock 1, 660 ft nsl and 721 ft from e&w lines 95.74-ac lse, S. G. Purse sur, elev 462 ft, Georgetown 5100 ft, flow 840 bbls ¼-in, natural, Paluxy perf 6264-78, 6284-6312, 6316-32 and 6337-50 ft, td 6394 ft.

### EAST TEXAS WILDCATS

**Bowie County—Failure:** P. D. Bowlen et al's Sims-Shell 1, 1980 ft nsl and 5075 ft ewl of H. G. Williams sur, elev 350 ft, Woodbine 3068 ft, Georgetown 3259 ft, Paluxy 3828 ft, Glen Rose 4185 ft, Massive anhydrite 5230-5348 ft, Pettit 5955 ft, Travis Peak 6050 ft, Cotton Valley 7040 ft, Buckner 8565 ft, Buckner anhydrite 8615 ft, Smackover lime 8865 ft, abnd 8987 ft.

**Freestone County — Gas Discovery:** Carter-Gragg Oil Co. et al's Steward 1, 5250 ft ewl and 1864 ft nsl Jas. James sur, elev 342 ft, Pecan 2310-96 ft, Austin 3225-3603 ft, Woodbine 3950 ft, 25,000,000 gas, ¼-in, natural, perf 4001-06 ft, td 4048 ft.

**Van Zandt County—Failure:** A. F. Carter et al's Hazel 1, 1010 ft ewl and 660 ft nsl of H. C. Marrs sur, elev 449 ft, Pecan 2525-2690 ft, Austin 3460-3910 ft, Sub-Clarksville 3965 ft, Woodbine 4438 ft, Georgetown 5240 ft, Goodland 6332 ft, Paluxy 6420 ft, abnd 6493 ft.

### NORTH TEXAS

**Archer County—Scotland:** Shell's Coleman 6-G-C, 912 ft wel and 330 ft nsl lot 2, ATNCL 74, flow 758 bbls 2-in, acid 6000 gals Bend 5080-5216 ft.

**Clay County:** Akin-Dimock's Saner 10-A, GC&SF 33, abnd 1303 ft.

Akin-Dimock's Saner 11-A, 990 ft from nw and 330 ft from ne lines sec 32, but in GC&SF 33, pump 9 bbls 167-174 ft.

Geo. R. Golden et al's Roop 3, sec 10, Thornberry subdiv, pump 36 bbls, sand 1101-14 ft.

**Clay County—Antelope:** Shell's Henderson 23-C, 1315 ft nsl and 1215 ft ewl TE&L 2605, Bend 5032 ft, Mississippi 5796 ft, abnd 5846 ft.

**Haskell County—Strand:** S. B. Roberts and Fain-McGaha's Pardue 1, 990 ft nsl and 700 ft ewl sec 1, SFIW sur A-475, Palo Pinto 3405 ft, pump 78 bbls oil, 22 water, acid 2000 gals, 3409-11 ft.

**Wichita County:** Petroleum Inv. Co.'s Burnett 1, HT&B 7, A-134, pump 8 bbls, sand 1668-73 ft.

**Young County:** Paul Atchley et al's Clark 1, sw nw TE&L 208, abnd 860 ft.

Chas. King et al's Brown 7, S. Tynes sur A-274, pump 7 bbls, sand 547-63 ft.

Panhandle Ref. Co.-B. H. Rankin's Slater 2,

TE&L 3406, Marble Falls 4334 ft, abnd 4370 ft.

### NORTH TEXAS EXTENSION

**Wichita County — ⅝-mi southeast K-M-A:** Grace & Grace's Rolier 1, 100 ft snl and 25 ft wel lot 48, R. J. Scott sur A-256, lime 3899 ft, pump 98 bbls, 17% water, shot 200 qts, 4048-4112 ft, td 4114 ft.

### NORTH TEXAS WILDCATS

**Archer County — Failures:** Whitaker Oil Co.'s Coleman 2, 660 ft snl and 1880 ft ewl sec 25 Brazos CSL, KMA lime 4118 ft, Bend 5434 ft, Barnett shale 5699 ft, abnd 6004 ft.

White & Duncan's Gilmore 1, 990 ft nsl and 330 ft wel lot 9, G. P. Meade's 55 Pasture subdiv, abnd 1304 ft.

**Clay County—Failures:** J. W. Hastings et al's Owens 1, 330 ft nsl and 960 ft wel blk 50, Specht-McCutcheon sur, abnd 1215 ft.

Webb & Taylor's Bentley 1, 450 ft out nec blk 51, Specht-McCutcheon sur, abnd 1360 ft.

**Jack County—Failure:** Joe Worsham et al's Meador 1-A, 643 ft snl and 1309 ft ewl Henderson CSL 22, Barnett 5692 ft, Ellenburger 6020 ft, abnd 6142 ft.

**Wichita County—Failures:** W. A. Baber et al's Ogden 1, se se nw H&GN 35, A-163, abnd 525 ft.

H. B. Dudley et al's Boone 1, 1532 ft wel and 1500 ft nsl S.P. Ry. 28, A-264, abnd 1361 ft.

### TEXAS PANHANDLE

**Gray County:** Phillips' Clay-Bascla 1, c nw sw H&GN 177, blk B-2, pump 119 bbls, granite-wash 2975-95 ft.

Sun's Combs-Worley 4-B, 1244 ft nsl and 770 ft wel sw I&GN 34, blk 3, abnd 3371 ft.

**Hutchinson County:** Shamrock's Stewart 4, c ne se AB&M 19, blk M-16, pump 140 bbls, pay 3180-3217 ft, td 3224 ft.

Skelly's Harrington 2, AB&M 20, blk M-16, pump 27 bbls, lime 3247-67 ft, td 3324 ft.

### TEXAS GULF COAST

**Brazos County—Millican:** Phillips' Renchie 1, 58-ac tr, William Devers Lge, abnd 7774 ft.

**Liberty County—Esperson Dome:** General Crude's City Investment 2, 1840 ft fr s ly & 575 ft fr wl of 302-ac lse, 5½-in 8933 ft, perf 8378-8556 ft, flow 106 bbls, ⅛-in, td 8952 ft.

**Montgomery County—Fostoria:** J. A. Gray's Foster 1, 40-ac tr, Presley Gill sur, abnd 6024 ft.

### LOWER TEXAS COAST

**Jackson County—Mayo:** Louis Crouch's Rodesney 1, 467 ft fr nw&swl of 200-ac lse, w cor G. P. Aycock sur, A-3777, 5½-in 5600 ft, sand 5408 ft, perf 5419-25 ft, flow 43 bbls, 7/64-in, td 5600 ft.

**Jackson County—West Ranch:** Magnolia's West Ranch 245-A, 4270 ft fr swl of 11,582-ac lse, Valentin Garcia gr, 5½-in 5746 ft, sand 5760 ft, perf 5760-64 ft, flow 121 bbls, ⅛-in, td 5767 ft.

**Jackson County—Ganado:** Texas Co.'s Hultquist 4, 524 ft fr sl, 467 fr el D. Dempsey sur, A-363, 200-ac lse, 5½-in 6513 ft, sand 6435 ft, perf 6438-46 ft, flow 150 bbls, ⅛-in, td 6660 ft.

**Jackson County—Harmon:** Walter Van Norman's McCrory 1, 1478 ft fr wl, 467 fr sl n 140-ac tr of 232-ac tr, M. L. York sur 12, A-313, 5½-in 6377 ft, sand 5344 ft, perf 5346-54½ ft, flow 102 bbls, ⅛-in, td 5403 ft.

**Jim Wells County—Seeligson:** Shell's Seeligson 13, 2068 ft fr w'ly wl, 632 fr nl 990-ac tr, Willis Millican sur 335, sand 5902 ft, perf 5910-22 ft, flow 197 bbls, 7/64-in, td 5975 ft.

Sun's Canales 20, 1980 ft fr wl, 3145 fr nl J. E. Stevens sur 364, 3000-ac lse, 5½-in 6037 ft, sand 5240 ft, perf 5244-48 ft, flow 107 bbls, 3/16-in, td 6050 ft.

**Kleberg County—Seeligson:** Humble's King Ranch-Cabeza 13, 162 ft fr nl, 1980 fr wl A. G. King sur 50, 5½-in 5985 ft, sand 5985 ft, flow 113 bbls, ⅛-in, td 6010 ft.

**Kleberg County—Stratton:** Humble's King Ranch-Paso Ancho 31, 1320 ft e of King 21, Paso Ancho de Abajo gr, 5½-in 6665 ft, sand 6630 ft, perf 6630-35 ft, flow 142 bbls, ⅛-in, td 6669 ft.

**Nueces County—Agua Dulce:** Richardson's Driscoll 2, 2130 ft fr nl, 510 fr el of 320-ac lse, w½ sec 304, Palo Algo gr, 5½-in, 6510 ft, perf 6467-73 ft, flow 146 bbls, ⅛-in, td 6563 ft.

**Nueces County—Richard King:** Southern Minerals' King 2-C, 523 ft fr nl, 467 fr el sec 9, 495-ac lse, w flank, 5½-in 5585 ft, perf 5335-40 ft, flow 78 bbls, 3/32-in, td 5612 ft.

Sun's Brownlee 2, 495 ft fr n&el sec 4, 752-ac tr, nw flank, 5½-in 5614 ft, sand 5551 ft, perf 5577-80 ft, flow 73 bbls, 7/64-in, td 5719 ft.

### WELL REWORKED

**San Patricio County — Midway:** Homer Easterwood's Josey et al 1, 467 ft fr se&swl of 548-ac tr, John Gobbs sur, abnd 10-13-40, plugged back and sidetracked 1750 ft, 5½-in, 6144 ft, perf 6091-94 ft, abnd 6108 ft.

### LOWER TEXAS COAST WILDCATS

**Jackson County—Failure:** Butcher-Arthur Co.'s Caswell 1, 3 mi n Texana field, 660 ft fr n&wl of 396-ac lse, H. W. Munson sur, A-57, abnd 6500 ft.

**Victoria County—Failure:** Darby Petroleum Co.'s Bankhead 1, 95 ft fr nl & 660 ft fr wl of blk 39, 152-ac lse, Roseborough subdvn, Fernando de Leon sur, A-67, abnd 7011 ft.

**Victoria County—Failure:** Great Lakes Carbon Corp.'s Wray 1, 660 ft fr sw&sel's of W. W. Nichols sur on 320-ac tr, abnd 3454 ft.

**Victoria County—Failure:** Rowan & Hope's Dodd 1, 660 ft fr ne&nwl's of blk 9, Brown & Dodd subdvn, Agapito de Leon gr, abnd 6010 ft.

### LOWER TEXAS COAST EXTENSIONS

**Colorado County—Buck Snag:** Shell's Union Central 1, 2500 ft fr sl, 660 ft fr el of 280-ac tr, IGN sur, A-313, 4500 ft ne, abnd 7006 ft.

**Jackson County—Mustang Creek:** Guy I. Warren's Kaspar 1, 660 ft fr s&el's of 180-ac lse, William Menefee sur, A-53, ¼-mi w discovery, abnd 6614 ft.

**Nueces County—Riverside:** H. D. & H., Inc.'s Wright 2, 660 ft fr s&el's 260-ac lse out of 300-ac tr, V. L. de Herrera gr, 5½-in 5295 ft, sand 4880 ft, perf 4880-92 ft, flow 100,000,000 gas, td 7106 ft. Extends production 4300 ft.

### SOUTHWEST TEXAS

**Duval County — Conoco Driscoll:** Continental's Driscoll 11-B, 1000 ft n of 9-B, 6275 ft n of sl of 12,000-ac lse, U. Lott sur 484, 5⅜-in, 2971 ft, perf 2945-70 ft, flow 279 bbls, ¼-in, td 2971 ft.

**Duval County—East Benavides:** Hiawatha Oil & Gas Co.'s Parr 4-A, 1200 ft fr el, 3225 ft fr nl 3840-ac lse in San Andres gr, 7-in 5788 ft, sand 5730 ft, perf 5739-42 ft, flow 11,500,000 gas, or 3,000,000 gas and dist, ¼-in, td 5788 ft.

**Duval County — Cadena:** Taylor Refining Co.'s Garcia 1-B, 440 ft fr nl, 4150 fr el of Blackstone & Hardeman sur, A-288, 7-in, 4613 ft, perf 4554-64 ft, flow 45 bbls, 13/64-in, td 4615 ft.

**Live Oak County—South White Creek:** Buckaloo and Holland's Needham 1, 290 ft fr s&el's of tract 3415, blk 73, BS&F 15, 7-in 1827 ft, perf 1822-27 ft, jetted 62 bbls oil, 300 bbls salt water, td 1827 ft.

### SOUTHWEST TEXAS WILDCATS

**Live Oak County — Failure:** Stanolind's Matheson 1, 2150 ft n, thence w fr s cor J. M. Reed sur, A-1047, 300-ac lse, 8 mi ne Dinero, core test, abnd 4400 ft.

**McMullen County—Failure:** J. W. Gorman's Atkinson 3, 2310 ft fr wl, 330 ft fr sl of AB&M 125, abnd 2240 ft.

**McMullen County — Failure:** Stanolind's Henry 1, 660 ft fr el, 2010 fr sl of William Kuykendall 28, 3 mi nw Tilden, abnd 6800 ft.

**Zapata County—Failure:** Government Wells Oil Co.'s Hinnant 1, 2310 ft fr nl, 660 fr wl of n 240-ac tr of w½ of R. Hinnant sur 110, 2 mi nw Cuellar field, abnd 2670 ft.

### SOUTHWEST TEXAS EXTENSIONS

**Live Oak County—South White Creek:** Joe Stelzig's Hoelscher 1, 40-ac tract 3410, blk 72, BS&F 15, abnd 1850 ft.

**Starr County—North Sun:** Sun's Guerra 1-A, 483 ft fr s&nl's & 495 ft fr el of 151-ac tr, La Sal Colorado gr, 1 mi ne production, abnd 5702 ft.

### SOUTH CENTRAL TEXAS WILDCAT

**Bastrop County—Failure:** Taylor Refining Co.'s Alexander 1, 660 ft fr s&el's 300-ac lse, William Eastland sur 30, 10 mi s Bastrop, abnd 2092 ft.

### WEST TEXAS

**Andrews County—Embar:** Phillips' University-Andrews 26, c sw nw sec 20, blk 10, elev 3255 ft, abnd 4507 ft.

**Cochran County — Slaughter:** Continental's Dean 12-58, 3347 ft wel and 651 ft nsl lse, leag 58, Martin CSL, flow 1179 bbls ca, acid 10,000 gals 4950-5002 ft.

**Crockett County—Soma-Noelke:** T. P. Coal & Oil Co.'s Fee 3, 1983 ft ewl and 970 ft nsl sec 27, blk GG, M. T. Wilton sur, 4,650,000 gas, 810 lbs rp, shot 20 qts 1963-73 ft, td 2210 ft, pb to 2019 ft.

**Gaines County—Seminole:** Amerada's Robertson 5, c ne sw WT 196, blk G, flow 488 bbls, ½-in, acid 2000 gals, perf 5168-5225 ft, td 5260 ft.

**Glasscock County:** Aragon Oil Co.'s Edwards-Texaco 2-C, 1186 ft nsl and 2130 ft wel T&P 16, blk 33, T-2-S, pump 29 bbls, acid 1000 gals 2098-2104 ft.

**Pecos County—Conry-Davis:** Stanolind-Tal-Vez Oil Co.'s Hall 2, 330 ft from m/e/e and 831 ft from sw lines H&TC 18, blk 2, Yates 1125 ft, San Andres 2201 ft, pump 200 bbls, 10% water, acid 1000 gals, 2296-2306 ft.

**Pecos County—Taylor-Link:** H. G. Eastham, Jr. et al's University-Standard 5-B, nw sw sw sec 12, blk 18, pump 245 bbls, 20% water, acid 2000 gals 1613-40 ft.

**Winkler County—Weiner:** Stanolind's Brown-Altman 6, c ne ne PSL 5, blk B-11, flow 128 bbls, 3/16-in, shot 490 qts 3004-3167 ft, td 3170 ft.

**Yoakum County—Wasson:** Bay Pet. Corp.'s O'Dowd-Honolulu 1, 2090 ft snl and 440 ft ewl sec 806, blk D, flow 442 bbls, ½-in, acid 10,000 gals 5090-5151 ft.

DeKalb Agricultural Ass'n Armstrong-Humble 2, 550 ft out nwc e½ sec 889, flow 776 bbls, 2-in, acid 12,000 gals 5100-10 ft.

Drilling & Exploration's Davis-Humble 4-A, c ne se sec 728, pump 154 bbls, 47% water, acid 10,000 gals 5015-5245 ft.

Honolulu's Bennett 13-A, 440 ft nsl and 1980 ft wel sec 614, flow 260 bbls, 2-in, acid 9000 gals 5238-5301 ft.

Plymouth Oil Co.'s Bennett 1-C, 660 ft nsl and 510 ft ewl nw sec 630, flow 386 bbls, 1⅝-in, acid 9000 gals 5203-70 ft.

### WEST TEXAS WILDCATS

**Pecos County—Failure:** Gulf's Rooney 1, 660 ft out nwc CCSD&RGNG 82, elev 2998 ft, abnd Delaware 5423 ft.

**Sterling County—Failure:** Ohio Oil Co.'s Clark 1, c ne sw GC&SF 6, blk A, elev 2249 ft, lime 860 ft, base black shale 7600 ft, Ellenburger 7705 ft, abnd 8486 ft.

### WEST CENTRAL TEXAS

**Coleman County — Rock Crusher:** Sohio's Ray 1, 921 ft w and 1506 ft n of SWc Robt. Goodfellow sur, in J. P. McLean sur, elev 1940 ft, abnd 3228 ft.

**Palo Pinto County:** T. P. Coal & Oil Co.'s Fee-Ryan 2, 2900 ft snl and 4425 ft wel of I. Ryan sur A-388, 4,650,000 gas, 2985-95 ft.

### WEST CENTRAL TEXAS WILDCATS

**Callahan County—Failures:** E. M. Thomason et al's Wright 1, 330 ft out NEc lse, Jesse Dyson sur A-751, abnd 2659 ft.

## United States Wildcat Starts

### ARKANSAS

**Calhoun County:** Placid's Freeman-Smith 3, ne se 14-16s-13w, sd.

Placid's Freeman-Smith 4, ne nw 2-15s-14w, dr.

Placid's Southern-International 1, nw se 30-14s-14w, dr.

**Little River County:** King's Stubblefield 1, nw ne ne 10-12s-30w, dr.

**Miller County:** Barnsdall et al's Grace 1, se nw 4-15s-27w, dr.

Northern's Adcock A-1, nw nw 1-19s- 28w, lcn.

Magnolia et al's Olivet A-9, ne ne 4-16s-26w, dr.

**Ouachita County:** Grady Vaughn's Reynolds-Berg 1, se sw 6-15s-19w, dr.

**Union County:** Sam Richardson et al's Moody 1, sw nw 16-17s-14w, woc.

**Johnson County:** Arkansas-Louisiana Gas Co.'s Hendrix 1, se 21-10n-21w, dr.

### CALIFORNIA

**Fresno County:** Standard's 61-35, 17-21-15, Jacilitos area, rig.

**Kern County:** O. H. Calhoun's Bridge 1, 17-28-28, Kern River extension, dr.

Western Gulf's Club 1, Los Angeles Country Club tract, Paloma area, dk.

Trico Oil & Gas Co.'s Howell 1, 32-28-29, Round Mountain extension, lcn.

Signal's Mills 1, 24-28-28, Round Mountain extension, lcn.

Signal's McGregor 1, 26-28-28, Round Mountain extension, lcn.

**Santa Barbara County:** Whittier Associates' Barham 1, 11-7-32, sw Los Alamos, lcn.

### GEORGIA

**Coffee County:** Taylor's Knight 1, swc land lot 327, sixth district, dr.

### ILLINOIS

**Bond County:** Delta Prod. Co.'s Young 1, ne ne sw 7-6n-4w, lcn.

**Cumberland County:** Papoose Oil Co.'s Curry 1, nw nw nw 3-10n-7e, lcn.

**Effingham County:** Kingwood's Earnest 1, nw se ne 15-6n-5e, lcn.

### INDIANA

**Posey County:** Paul Rossi's Kencheloe-William Comm. 1, ne ne nw 35-5s-13w, comp. Carter's Schneider 1, c sw sw 34-7s-14w, lcn.

A. J. Hammer's Templeton 1, c nw se 18-8s-13w, lcn.

### KANSAS

**Barber County:** Champlin's Allen 1, se nw se 22-32s-15w, mim.

**Butler County:** Vickers and Phil-Han's Weiber 1, c nw ne 10-24s-3e, dr 50 ft.

**Cowley County:** Wolf Creek and E. Wakefield's Cloud 1, c n½ ne nw 12-31s-4e, lcn.

**Edwards County:** Broderick & Gordon's Smith 1, c ne ne 17-24s-20w, lcn.

**Ellsworth County:** N. Appleman and Bradley Bros.' Becker 1, se se se 2-17s-9w, brr.

**Reno County:** Superior's Reece 1, sw corner of lot 4, 2-26s-9w, mog.

**Russell County:** Cities Service's Hilgenberg 1, se sw nw 16-15s-11w, lcn.

Ohio's Polcyn 1, ne nw ne 19-13s-15w, lcn.

**Rush County:** J. J. Lynn et al's Weigand 1, c s½ ne sw 4-18s-18w, mim.

**Stafford County:** Falcon-Seaboard's Redetzke 1, c n½ ne ne 5-24s-14w, dr 1690 ft.
Broderick & Gordon's Pierson 1, c n½ ne sw 20-25s-12w, lcn.
**Wallace County:** Broderick & Gordon's G. Goodrich 1, c ne ne 9-14s-42w, brr.

### KENTUCKY

**Union County:** Cherry & Kidd's Proctor 1, 3-P-20, lcn.

### SOUTH LOUISIANA

**Acadia Parish:** Continental's Acadia Parish School Board 1, North Richie area, 3218 ft n, 660 w se c 16-7s-1w, lcn 10,500-ft test.
**St. James Parish:** Humble's Colonial Sugars 1, Hester area, fr ne cor sec 5 go s'ly alg el 3062 ft, thence w'ly at ra 660 ft in sec 5-12s-5e on 40-ac unit, lcn 9000-ft test.

### NORTH LOUISIANA

**Bienville Parish:** Electric Gas & Oil Co.'s State 1, c w½ 8-16n-10w, wo.
**Bossier Parish:** C. W. Beene's Fenet 1, sw ne nw 25-21n-14w, lcn.
White & Hinton's Louisiana Real Estate 1, sw ne 16-21n-14w, lcn.
**Caddo Parish:** Harris & Owens' Fuller 1, se ne 4-22n-15w, sd.
**Catahoula Parish:** C. C. Gilger et al's Peck 1, sw nw 51-10n-8e, sd.
**Claiborne Parish:** Skelly-Sunray's Wallace-Griffis 1, se ne 36-20n-7w, dr.
**Concordia Parish:** Northern's General American 1, se ne 9-7n-7e, lcn.
**Grant Parish:** Pan American's Foster C-1, nw ne 2-6n-1w, wo.
**DeSoto Parish:** Oakes-Easton et al's Edgar J. Ramsey 1, nw sw 27-13n-16w, dr.
Crosby Drlg. Corp.'s Anders 1, se se 5-11n-14w, dr.
C. D. Neff's Pollock 1, se ne 8-13n-12w, dr.
J. H. Holt's Hoffman 1, se ne 1-12n-15w, sd.
**Natchitoches Parish:** J. E. Watt's Fair 1, nw nw se 18-10n-10w, lcn.
Howard Youree's Reed 1, nw sw 36-10n-8w, sd.
Bayou Pierre's Brown 1, sw 25-10n-8w, sd.
**Red River Parish:** Peterson Petroleum Corp. et al's Wilkinson 1, se se 11-12n-10w, dr.
**Webster Parish:** H. H. Temple's Woodard & Walker 1, ne sw 9-17n-8w, lcn.
**Tensas Parish:** Carter's Rhodes 2, nw 28-9n-10e, rig.

### MICHIGAN

**Barry County:** Sun's Mead 1, e½ ne se 8-3n-9w, lcn.
**Clare County:** Sun's Huber 1, s½ sw nw 6-19n-3w, lcn.
**Gladwin County:** Mogul Oil Co.'s Mounts 1, c sw ne 28-18n-1e, rig.
**Lapeer County:** Clarence Wilcox's Haslick 1, ne nw ne 30-9n-12e, dr.
**Newaygo County:** Ohio's Vaughan 1, s½ ne ne 29-15n-11w, rig.

### MISSISSIPPI

**Carroll County:** C. W. Walter's Flippen 1, 22-19n-4e, lcn.
**Clarke County:** Higgason's School Land 3, 16-3n-16e, dr.
Harry Elliott's Long-Bell 1, 24-4n-16e, dr.
Macro Drilling Co.'s Long-Bell A-1, 10-2n-16e, sd.
**Claiborne County:** Amerada's Rodney, 66-11n-2e, dr.
**Copiah County:** Carter's School Land 1, se se 16-11n-5e, dr.
**Issaquena County:** Hunt's Robinson-Skinner 1, 8-13n-8w, lcn.
Irion Drilling Co.'s Lathrop-Mann 1, 24-11n-8w, dr.
**Madison County:** Evans-Dinkins et al's Cameron 1, 10-9n-1e, sd.
**Simpson County:** Gulf's Wilbe 1, dr.

### NEW MEXICO

**Eddy County:** J. R. Miller et al's Kelly 1, sw ne sw 2-18s-25e, sp and sd.

### OKLAHOMA

**Comanche County:** J. G. Beard's Neese 1, se ne ne 8-1n-9w, rur.
**Cotton County:** Stanolind O&G's Mayer 1, ne nw 25-3s-12w, lcn.
**Garvin County:** Ohio's Burns 1, se ne sw 17-3n-2e, lcn.
**Washita County:** Gulf's Hopkins 1, nw se 8-8n-20w, lcn.

### EAST TEXAS

**Rains County:** American Liberty Oil Co.'s Republic 1, 660 ft out nec 40-ac lse and Henry Howell sur, 3 mi e of Emory, mim for 6500-ft Paluxy test.

### NORTH TEXAS

**Archer County:** Louis Sikes et al's Virgil Seay 1, 990 ft ewl and 1650 ft snl blk 56, Harris Club Ranch, lcn 1300-ft test.
L. T. Burns et al's Turbeville 1-R, 330 ft out swc blk 161, Robt. Carson subdiv, lcn 1600-ft test.
**Clay County:** Akin-Dimock et al's Stephenson 1, 330 ft snl and 330 ft from sel tract, blk 55, Specht-McCutcheon sur, lcn 1200-ft test.
**Jack County:** Trumter Pet. Corp.'s Bloodworth-Shell 1, 2560 ft from sw and 1600 ft from se lines Wm. McDonald sur A-380, spon 1000-ft test.
**Young County:** Anderson-Prichard's Stewart 1, 990 ft ewl and 330 ft nsl of H. T. Henderson sur A-1450, lcn 4800-ft test.

### SOUTHWEST TEXAS

**Duval County:** H. J. Porter's Dunn 2-A, 8 mi w Realitos, 3300 ft fr n, 1980 fr wl of 1600-ac lse, lcn 4100-ft test.
**Jim Hogg County:** M. L. Massingill's Armstrong 1, Gutierrez area, 1650 ft fr n&el of A. Villa sur, A-333, lcn 4000-ft test.
**Webb County:** George Buck's Puig 2, Dulup area, 330 ft fr s&wl of blk 42, Albercas de Arriba gr, lcn 2000-ft test.

### LOWER TEXAS COAST

**Jackson County:** Forest Development Corp.'s Bennett 1, 1¼-mi nw West Ranch, 467 ft fr ne&nwl of lot 28-A, J. M. Bennett Rch subdvn, Valentin Garcia gr on 69.9-ac tr, lcn 6300-ft test.
**Jim Wells County:** C. Matlock's Vandenberg 1, 7 mi sw Agua Dulce, 660 ft fr s&el of 168-ac tr in Los Presenos gr, lcn 6500-ft test.
**San Patricio County:** John T. O'Neil's Welder 1, 3 mi sw Odem, 2700 ft fr w, 2810 ft fr nl of 2000-ac lse in Victoriano Tares & Pedro Villareal sur, A-32, RU 7500 ft test.
Rogers Brothers Drilling Co.'s McKamey 1, 5 mi se Odem, 3661 ft nw alg swl fr s cor 400-ac lse, Juan Armendarias sur, lcn 7500-ft test.

### WEST TEXAS

**Pecos County:** Magnolia-Anderson & Prichard's Powell-State 1, c w¼ of s¼ H&GN 96, blk 10, rur for Ellenburger test.

### WEST CENTRAL TEXAS

**Coleman County:** Hunter & Hunter's D. W. Griffin 1, 660 ft nsl and 2310 ft ewl of Hood CSL sur 94, lcn 3950-ft test.
**Comanche County:** O. L. Johnson et al's Knight 1, 645 ft ewl and 1315 ft snl of L. Brightman sur 38, A-2071, lcn 1000-ft test.
**Jones County:** G. M. Gillespie and Phillips' Roberts 1, 330 ft out sec nw sec 47, Orphan Asylum Lands, lcn 4000-ft test.
Watchorn O&G Co.'s Ray 1, 2570 ft snl and 330 ft ewl T&P 11, blk 17, lcn 2750-ft test.
**Parker County:** Devonian Oil Co.'s Raymond Buck 1, 660 ft nw of nwl of Thos. Brahn sur A-158 and 563 ft sw of sw line T. H. Odell sur A-1036, in I&GN 2, blk 9, lcn 6500-ft test.

# Squeaks from the Bull Wheel

### Makes Sense

The Eighth Army's artillery barrage had been unusually heavy, and had been interspersed by visits of zooming planes, which machine-gunned the battered Axis lines mercilessly.

In the lull that followed, an Italian infantryman sat dejectedly on an empty gasoline can, his eyes fixed darkly upon the baked desert earth, his dust-smeared chin cupped in begrimed hands.

"What's the matter?" an officer asked. "Homesick?"

"No, sir," came the prompt reply, "Not homesick. I'm heresick!"

### In the Good Old Summer Time

"What time do you get up in summer?"

"As soon as the first ray of the sun comes in my window."

"Isn't that rather early?"

"No. My room faces west."

### Language Difficulty

A Frenchman, struggling with the English language, turned to an American friend for counsel:

"What," he asked, "is a polar bear?"

"Polar bear? Why he lives 'way up north."

"But what do he do."

"Oh, he sits on a cake of ice and eats fish."

"Zat settle! I will not accept!"

"What in the world do you mean, you won't accept?"

"Ah," explained the other, "I was invite to be a polar bear at a funeral, and I will not accept."

### Lesser Evil

Three Canadians, sleeping in one of the English training areas, were awakened by a terrific crash not far away.

"What was that," asked one, "thunder or bombs?"

"Bombs," was the laconic answer.

"Thank heaven," said the third, "I thought we were going to have more rain!"

### A Mouthful

"My husband had a funny dream last night and chewed the insides out of the pillow."

"Didn't he feel sick today?"

"No, just a little down in the mouth."

I see no evil; I speak no evil;
I hear no evil; Boy—am I a sissy!

### Guess!

"Jim proposed to me last night, and I'm sore at him."

"What makes you so mad?"

"You ought to have heard what he proposed."

### This One Has Whiskers

She had just been hired for a job in the sideshow of the circus, and she said to the boss:

"Is there any particular advice you'd like to give me before I start to work?"

"Yes," he said. "Don't ever undress in front of the bearded lady."

### Reception

"A burglar broke into our house last night while I was out with the boys.

"Did he get anything?"

"I'll say he did. He woke my wife up and she thought it was me coming home."

### Join the Navy and See—

In Washington they are telling this one as a true story:

A young ensign took a directive in to one of the brass hats. The admiral signed it and it was duly posted on the bulletin board. It read:

"All officers wishing to take advantage of the stenographers in the pool will go to Room 801 and show evidence of their need."

### Ordeal

"How are you, Mike?"

"Terrible, terrible! It is starvation that is staring me in the face."

"Is that so. It couldn't be very pleasant for aither of ye, I'm shure!"

### The Hard Way

"But surely you did not tell him straight out that you love him?"

"No fear, he had to squeeze it out of me."

### Pome

Rose's are red
Violet's are blue
Lillie's are pink—
I know, I saw them on the wash line.

# Notes for the Equipment Buyer and User

### Butler Company Receives Army-Navy E Award

The Army and Navy E has been awarded Butler Manufacturing Company. About 2500 employes and their friends witnessed the ceremony which was held at the Kansas City plant. Preceding the formal presentation by Colonel Malcom Elliott, Army Engineers Corps, and Lieutenant Commander Nathan Young, Officer Procurement Section of the Navy, a dramatic sketch was broadcast. The sketch, "The Lines That Form Shall Never Break, Because of Things We Failed to Make," simulated the use of the company's war products in combat service around the globe. E. E. Norquist made the acceptance address for the award.

### Republic Supply Company to Handle Wolverine Tube Products

Wolverine Tube Division of Calumet and Hecla Consolidated Copper Company, Detroit, announces appointment of Republic Supply Company as exclusive distributors for its tubular products in the Southwest.

Republic Supply Company, a subsidiary of Republic Steel Corporation, has general offices at Houston, and 36 branches and sales offices in Texas, Oklahoma, Arkansas, Louisiana, New Mexico, Indiana, Illinois and Kansas. The first four states named comprise the territory in which the company will represent Wolverine Tube Division.

### Crane Company Chicago Plant Gets E Award

Crane Company was awarded the Army-Navy E, symbol of meritorious performance of duty in producing supplies for the fighting forces, at the Chicago Works, on January 29.

### Sprocket Wheels

Link-Belt Company, Chicago, has published Book No. 2067, listing the sizes of cast tooth sprocket wheels that are available quickly from stocks carried at Link-Belt plants and warehouses, and by authorized distributors.

The booklet includes sprockets for Ewart detachable "H" class, SM, SS, XS, GL, "C" class and "800" class chains. Sizes of wheels that have been most commonly ordered over a period of years are also tabulated.

### Welding

Air Reduction Company, 60 East 42nd Street, New York, announces a new booklet, "The Welding of Piping." The subjects covered include various types of ferrous and non-ferrous piping, their dimensions, fabrication, and estimates of welding and labor costs.

### Wilson Electrical Equipment Offers Metal Protection Service

Wilson Electrical Equipment Company, Houston, has been appointed representative in the Gulf Coast area for Parker Rust-Proof Company of Detroit. Wilson is a processing licensee for the Bonderizing and Parkerizing processes of the Parker Company.

Parker processes provide protective finishes for metal parts and equipment that avoid rust and corrosion. Its uses include treatment of metal parts against corrosive effect of oil field gases, as well as galling on wearing parts.

Parker processes produce a phosphate coating, cryptalline in character, which is resistant to rust and slightly absorptive, so that paint applications are given positive adhesion to metals. Without material change in the dimensions of a product treated, these processes include the rendering of numerous iron and steel articles free from corrosion, while providing a non-reflective surface.

Another Parker process, Parce Lubrite, provides a treatment for wearing metal parts that eliminates galling.

## PERSONALS

**BERT L. HARRIS,** manager of the Bartlesville, Oklahoma, office of Oil Well Supply Company, will retire March 13, following 41 years of active service with his company. He started with the company on March 1, 1902, at the Findlay Ohio, store. Subsequently he managed both the store and the field shop at that point. In 1909 he was transferred to Bradford, Pennsylvania, and on December 6, 1915, he moved to Bartlesville, where he has represented the company for over 27 years.

**JOSEPH C. JENNINGS** has been made technical field manager for L. H. Gilmer Company, in charge of the Houston branch. He comes from the industrial service department at Philadelphia.

**J. W. GARDNER,** head of the Gardner-Denver Company, Quincy, Illinois, died on February 1. He had spent his life in the services of the company founded by his father, having joined the organization upon completion of his college work, in 1881. During his sixty-two years with the company, he progressed through the various departments to the position of president, then chairman of the board of directors, and finally, chairman of the executive committee. He won national recognition through his interest in trade societies, having served as president of National Metal Trades Association, National Foundry Men's Association, National Compressed Air Society, and the National Hydraulic society.


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# Men in the Industry's News

**L. F. McCOLLUM,** president of The Carter Oil Company, Tulsa, effective March 6, has resigned to advance to vice president and member of the board of Standard Oil Company (New Jersey) at New York. O. C. Schorp advanced to Carter's president from executive vice president, and J. W. Brice succeeds as executive vice president.

L. F. McCollum

McCollum graduated from University of Texas with a degree in geology in 1925, joining Humble Oil & Refining Company at Houston as field scout, later was geologist in the Panhadle area and division geologist at San Antonio. He joined Carter as manager of exploration May 1, 1934, became executive vice president January 1, 1938, and president April 30, 1941.

O. C. Schorp

Schorp graduated from St. Mary's University, San Antonio, Texas, his home town, and started with Cia. Transcontinental de Petroleo, S. A., as superintendent of commissary at Las Matillas (Tampico), Mexico, in a few months becoming superintendent of materials. He went with Andian National Corporation at Cartegena, Colombia, in 1925, after two years was back at Tampico, and in 1929 went to Maracaibo in the materials division, later being promoted to superintendent of the marine and land departments. In 1924 he went to New York to take charge of materials for the producing department of Jersey. He joined Carter in October, 1939, as vice president and manager of the production department, and advanced to executive vice president on May 1, 1941.

Brice graduated with a degree in geology from University of Texas in 1927 to join Humble. In 1930 he became division geologist for Standard Oil Company of Venezuela, becoming chief geologist in 1934. In 1937 he went to New York to handle production matters for that company, returning to Venezuela in 1939 as assistant general manager. He joined Carter April 1, 1942, as vice president in charge of exploration and research.

**LAWRENCE VANDER LECK** has been appointed director of production for District 5 by PAW, succeeding Commander W. H. Osgood, who has been called to active duty by the Navy.

Vander Leck, a graduate of the University of California, began his oil career as a geologist, later joining the old California State Mining Bureau as geologist and petroleum engineer, resigning to join Fullerton Oil Company, of which he is vice president and manager. He was one of the charter members of the Central Committee of California oil producers, later the Conservation committee, and has served as president of the Oil Producers Agency.

**E. G. ROBINSON,** manager of the Eastern Production Area for Shell Oil Company, has been transferred to Houston, where he will handle a special assignment under A. J. Galloway, vice president in charge of exploration and production.

**SAM M. GREENIDGE,** Texas Pacific Coal & Oil Company, has been elected president of the Petroleum Engineers' Club of Fort Worth. A. E. Willig, The Texas Company, was chosen executive vice president, and Early Spiars, Parkersburg Rig & Reel Company, and V. P. Shelton, Stanolind Oil & Gas Company vice presidents, respectively. Rex Rader, Stanolind Oil & Gas Company, will be secretary-treasurer.

**JOSEPH M. WEAVER** of Eastland has been re-elected president of the West Central Texas Oil & Gas Association along with other executive officers. Harold G. Neely, Fort Worth, and Charles J. Kleiner, Cisco, were added to the list of vice presidents, while the board of directors was enlarged to include: Carl Angstadt and Cyrus Frost, Eastland; Geo. D. Morgan, San Angelo; Ernest L. Wilson, Dallas; L. R. Pearson and Hall Walker, Ranger; Paul Dean, Fort Worth; John Kleiner, Cisco; R. V. Tidwell, Graham; Homer Stasney, Albany; and Sol Sanders, Stamford.

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